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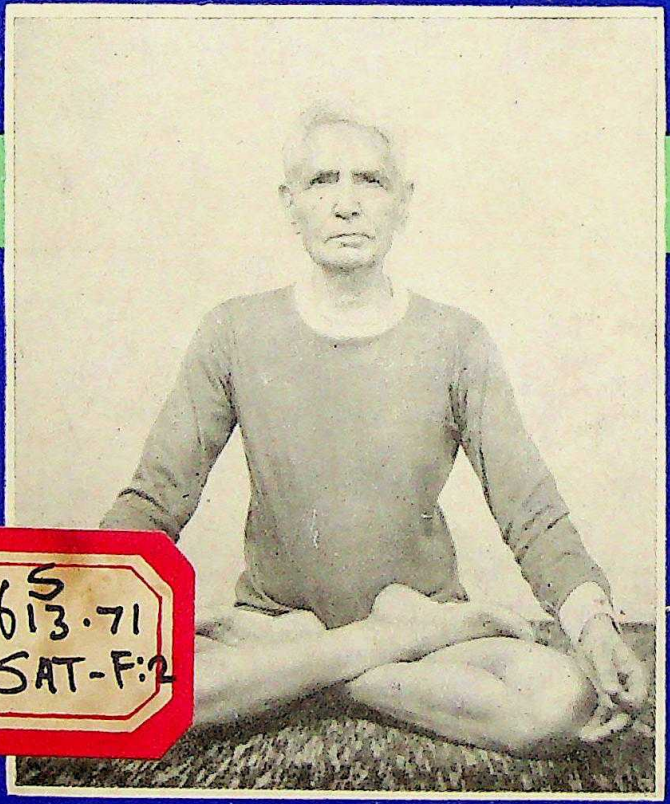
FROM OLD AGE TO YOUTH

THROUGH YOGA

WITH TREATMENT

86th YEAR



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DR. SATYAVRATA SIDDHANTALANKAR

89016

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WISE SAYINGS ABOUT AGE

1. As a white candle in a holy place,
   so is the beauty of an aged face:

   Joseph Carnbell

2. Why do you constantly call me old,
   no one is too old, for some things:

   Martial

3. You give your cheeks a rosy stain,
   with washes dye your hair,
   But paints and washes both are vain
   to give a youthful air

   Lucianus

4. Old age appears to be best in four things: Old wood best burns; Old wine to drink; Old friends to trust; Old authors to read:

   Alonso of Arogon

5. To be seventy years young is sometimes far more cheerful and hopeful than to be forty years old:

   O.W. Holmes

6. Forty is the old age of youth;
   Fifty is the youth of old age:

   Victor Hugo

7. He that is not handsome at twenty:
   Nor strong at thirty; Nor rich at forty;
   Nor wise at fifty; will never be
   Handsome, Strong, Rich or Wise.

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FROM OLD AGE TO YOUTH THROUGH YOGA

[WITH HOMEOPATHIC & OTHER TREATMENTS]

89016

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NIRVAN CENTENARY OF

YOGIRAJ MAHARSHI DAYANAND SARASVTI

1983

Vidyamartand Dr. Satyavrata Siddhantalankar

(Former) M P. & Vice Chancellor Gurukula Kangri University,

VISITOR

GURUKULA KANGRI VISHVAVIDYALAYA

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AUTHOR'S PUBLICATIONS
Upto 1983

DR. SATYAVRATA SIDDHANTALANKAR is a former Nominated Member of Parliament and a Vice-Chancellor of Gurukula Kangri University and presently its Visitor. He has written more than 32 voluminous books on various subjects like Vedic Thought, Sociology, Education and Homoeopathy. We are giving here a list of his books in Hindi as well as in English. They have been published by various Publishers, hence we are giving the number of pages of each book to enable the readers of the vastness of the learning and the varied interests of the author :

Books in Hindi by the Author

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33 BLOCKS AND DIAGRAMS IN THE BOOK
(25 Blocks are on Art Paper)

Note : 1, 2, 3 etc. are not the numbers of pages. They are serial numbers of all the pictures and diagrams given in the book. First group from No. 1 to 8 form one group of blocks; Second group from No. 9 to 25 form another group of blocks. This second group is for *Aasans*. After that, from No. 26 to No. 33 there is the third group of blocks where page numbers are given.

First Group of Blocks

1. Author's Parents.
2. Author's Family.
3. Prime Minister *Lal Bahadur Shastri* Releasing the author's Hindi Book—'*Gita Commentary*' in 1968 (2 poses).
4. Vice President Shri *G. S. Pathak* releasing author's Hindi Book—'*Homoeopathic Drug Pictures*' in 1972 (2 poses).
5. President *V. V. Giri* while releasing the author's Hindi Book—'*Diseases and their Homoeopathic Treatment*' in 1974.
6. The author's wife Mrs. Chandravati Lakhanpal with *Mrs. Indira Gandhi* and *Shri Jawaharlal Nehru*.
7. Prime Minister *Indira Gandhi* releasing the author's Hindi Book—'*Scientific Basis of Vedic Thought*' in 1975. This book has won Rajaji Award of Rs. 10,000/- in 1982.
8. The Group of Scholars who attended the above function with P. M. *Indira Gandhi* and the author in the centre.

Second Group of Blocks

9. The author performing cheek-exercises which are done for not letting wrinkles form on the face and if formed to remove them.
10. The author performing stomach exercises—*Nyoli*—(2 poses).
11. The author performing *Sheershaasan* (For Brain and Eyes).
12. The author performing *Padmaasan* which is an exercise for *Arthritis* and *Siddhaasan* which is an exercise for *Prostate*.
13. The author performing *Matsyendraasan* (2 poses) for exercising the *Spine* which regulates the Nervous System.

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14. The author performing *Sarvaangaasan* which activates all important *organs and glands of the Body* (2 poses).

15. The author performing *Pavan Muktaasan* (Wind-release pose) ; Also *Shavaasan* (Dead-man's pose) for relaxation.

16. *Dhanuraasan* and *Chakraasan* which are for strengthening the *Back* and to keep one erect.

17. 17, 18, 19, 20—Various other Aasans (poses). In 17, 18, 19, 20 the various Aasans shown are : *Shavaasan* (two poses), *Taadaasan, Soorya Namaskaar, Mahaaveeraasan, Naabhi-Aassan, Utkataasan, Trikonaasan, Supta-Trikonaasan, Bhujangaasan, Dhruvaasan, Dhanuraasan, Jaanu Shiraasan, Vajraasan, Shatur Murgaasan, Paad Hastaasan* and *Yaan-aasan.* All these are *Yogic* poses for physical development.

21. Block of *Madame De Lanclos Ninon* who performed these exercises and looked young at old age.

22. Blocks of *Sanford Bennet* who also performed these exercises and enjoyed youthfulness (2 poses).

23. Block of a lady who also performed these exercises and stepped into beauty from ugliness (2 poses).

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25. Diagram of the Internal Organs—*Diaphragm, Stomach, Liver, Pancreas, Small Intestines, Large Intestines, Appendix, and Rectum.*

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are 142 ; More Americans are Reaching the age of 100 ; *Charlie Smith* of Florida is 140 ; *William Pinckney* of Washington is 116 ; *Tennyson* Wrote '*Crossing the Bar*' at 83 ; *Goethe* Wrote *Faust* at 82; *Shaw* Wrote at 94 ; *Fraulin* Framed *American Constitution* after 80 ; *Justice Holmes* wrote Judgements till 90 ; *C. Rajagopalachari* and *Acharya Kripalani* Crossed 90 ; *Morarji Desai* is 88 ; *Nirad Chaudhari* is 86 ; *Prof. Satyavrata Siddhantalankar* is running 86. 270-274

23. **Miscellaneous :** Try to Grow as a Child ; Young at Hundred ; *Dr. Kanungo's* Research into Causes of Ageing ; Enzyme Levels ; *Dr. Datey's* Research on *Shavaasan* and its Effect on Blood Pressure ; *Dr. Bhatia* on *Yoga* and Transcendental Meditation on Lowering Blood Pressure ; *Dr. R.H. Dastur* on Heart-attack ; Angina Pectoris ; Coronary-Thrombosis ; Risk Factors in Heart Attack ; Fatty Foods and Cholesterol ; *Dr. Shantilal Shah* on Heart Attack ; *Dr. Datey's* Views on Heart Diseases ; Other Factors of Heart Disease ; Danger Signals of Heart-Attack ; How to Avoid Heart Attack; *Dr. Datey on Shavaasan*; Food and Heart ; Curd (Yogurt) is Anti-cholesterol ; Remedies for Heart ; Aspirin Prevents Heart-attack ; Gum Guggulu for Rheumatism and Arthritis ; Snake Poison for Rheumatism ; Diabetes ; Cataract ; Sleeplessness ; Urine-therapy ; *Morarji Desai* ; *Yoga Mudraa Aasan* ; Cure of Cancer (*Bhilaavaa*) ; Chewing Tobacco and *Paan* Leads to Cancer ; Raw Garlic is Anti-bacterial ; Grey Hair ; Properties of Honey. 275-339

24. **Corrigendum :** 339

25. **Index :** 340-344

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PREFACE

In the words of Francis Bacon 'Some books are to be tasted, others to be swallowed and some few to be chewed and digested'. This book is meant to be chewed and digested as it concerns the very life and being of my readers.

There is an old adage : 'Youth once gone cannot return nor can old age once come can go'—जाकर जो न आये वह जवानी देखी, आकर जो न जाये वह बुढ़ापा देखा'—but it is possible to keep young in spirit even though the body becomes old. What is youth and what is old age. A person is young if physically his muscles and organs are active, agile and elastic, and mentally he is high in spirit ; similarly, a person is old if he is rigid in joints and muscles and depressed in mind irrespective of the fact what his numerical age is. Francis Bacon wrote : 'A man who is young in years may be old in hours if he has lost no time, but that happenth rarely.'

How to keep young is the burden of the song of this book. A couple of years ago the author came across a rare book : '*Old Age—its Causes and Prevention*' by *Mr. Sanford Bennet*, published in 1922 in San Francisco, in which a photograph of *Madame De Lanclos Ninon*, a French lady, was given, who lived 350 years ago, and died at the age of 91. She looked so handsome at the age of 85 that looking at her figure, *King Louis* the 14th, remarked that her health was a miracle of his kingdom. There was not a wrinkle on her face A French writer named *Jeen Sowel*, explaining the reasons of her immaculate figure, wrote that she used to sit before a mirror for hours and perform every day some exercises of contraction and relaxation of her face and her body which were recorded in her diary. *Sanford Bennet* who was suffering from a failing health took to those exercises with the result that if his photograph taken at the age of 50 were compared with the one at the age of 72 during the course of which he had taken full advantage of those exercises, then he looked older in the photograph taken at 50 than the one taken at 72. At 72 he looked younger than

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at 50. There is another photograph of a lady, given in the same book, who underwent the course of those exercises after performance of which she looked much younger than what she was. Her face became beaming with vigour and strength.

We are giving in the book photographs of *Madame De Lanclos Ninon, Sanford Bennet* and the lady who performed the exercises from which one can judge for oneself as to how much benefit one can derive if one were to practice regularly the exercises taken from her record and mentioned in this book.

These days many books have been written on Geriatrics, and as the population of old people is rapidly increasing due to scientific and technological advancement, thirst for knowledge is also growing as to how to solve the problems that every one has to face in old age. One of such books is by *Gaylord Hauser*—**'Treasury of Secrets'**. *Mac. Kanna's* book—**'Revitalize Yourself'** is also worth reading. In the present book we have drawn upon every available source and have contributed enough of our own to make the book of practical use. Whatever has been written has been done so with scientific explanations. When one knows the scientific basis of a method, one does not require to be prompted to follow up the instructions in life. One follows the instructions by oneself as one comes to know their value.

We have discussed herein the problems of old age and their solutions from scientific point of view along with giving details of *Yogic methods* of *Aasans*, besides *Praanaayaam*, and *Brahmacharya* which stand for—Purity of the Body, Mind and Soul.

Let it be remembered that this book is not on *Aasans* (Poses). The number of *Aasans* (आसन) is legion. They are not meant for every body, particularly not for old people. They can make a person a wrestler or a gymnast or an acrobat. Our object is not to make Wrestlers, Gymnasts or Acrobats of our old people and enable them to perform extra-ordinary physical feats or acrobatic performances like the ones we witnessed during IXth Asiad in Delhi in November-December 1982.

To be a Gymnast and an Acrobat is alright. It helps to build the body, but it is not given to every body to successfully per-

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form gymnastic and acrobatic exercises. It would have been better if the organisers of the Asiad had also arranged an exhibition of *Yogic Aasans* for the benefit of the people as well as of the Gymnasts.

This book is written with a view to make life healthy and free from ailments attendant to old age, besides enabling old men to enjoy a peaceful and blissful life. The object is that if a person is young, by making use of the instructions contained in this book, he should so equip himself with strength and vigour as to gladly and successfully meet the challenges of old age ; if he is old, he should take advantage of these instructions so that the problems of age, physical and mental, may not sit heavily on his shoulders. Happiness all along from beginning to end. We have suggested some *Aasans* (आसन), no doubt, but they are only those ones which are necessary to keep a person agile, elastic, strong, tranquil and peaceful in old age. The object is that when old age comes, as come it must, one should be free from pains in finger-joints, free from pains in knees, free from pains in shoulders, free from pains in muscles, free from pains in the back. One should be able to walk straight, stand erect and live the octogenarian life like a young man with a smile on his face. He should not spend his life cursing the inevitable old age.

It is true, old age is inevitable, there is no escape from it, but instead of being alarmed from it one should chalk out a way and programme in life so that one may enjoy it and live happy and contented with it. Without a programme, simply to live is to vegetate. *Seneca* has rightly said : 'Nothing is less worthy of honour than an old man who has no other evidence of having lived long except his age'. *Bacon* said : 'Old men go to death, and death comes to youngmen'. One cannot forget *Joseph Campbell's* couplet : 'As a white candle in a holy place, so is the beauty of an aged face'.

Old age is full of problems. In what manner can one pass through old age as if there were no problems—this is what we have undertaken to solve in this book. The book is not meant solely for old people. It is undoubtedly meant for solving the problems of old people, but mainly it is meant for those who have

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yet to become old, as, no doubt, every body has to sooner or later ; for those who are standing at the threshold of the evening of life ; for those who are not yet facing the problems of old age, but who inevitably have to face those problems one day or the other. The book is a warning to them : Prepare yourself from now on, otherwise, when the demon will come, as come he must, he will find you unaware and will pounce upon you to your chagrin, and there will be weeping and gnashing of teeth. To be aware of the calamity in time and be prepared so that it may not inflict any injury on us is the sign of WISDOM. One should remember as *Joseph Jonbert* has said : 'Old age takes from the intellectual man no qualities save those which are useless to wisdom'.

All what has been written in this book is on the basis of personal experience of the author who is passing through 86th year of his life. Instructions contained in this book are his life companions and so he finds himself sound and healthy in all respects. If one understands the basic principles underlying the philosophy enunciated herein, one can develop one's own method of exercises and way of living on the basis of what has been written in this book.

A Special feature of this book is that it mentions Homoeopathic as well as other treatments, such as, Allopathic, Ayurvedic, Unaani along with *Yogic* Aasans relating to the problems of old age.

Before I end, I must thank my niece *Mrs. Nutan Pandit* who started this work, but due to other pressing occupations could not carry it through. Had she not pushed it on, I would not have undertaken to complete it. Besides, I am indebted to *Mr. Bharat Bhushan* of P. T. I. who helped me in many ways during the course of preparation of this book and also to *Mr. D. R. Kawatra*, Editor **'Better Life'** for valuable suggestions. Of course, *Shri Narayan Singh*, Proprietor of the Press, a handsome enterprising youngman true to his words has won laurels for handing over to me the last proofs for corrections just in time, a rare phenomenon for a Press. May God bless them.

W 77A, Greater Kailash (I)
New Delhi—110048.

SATYAVRATA SIDDHANTALANKAR

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AUTHOR'S FATHER

Pt. Balakram Lakhanpal

AUTHOR'S MOTHER

Shrimati Ishwari Devi Lakhanpal

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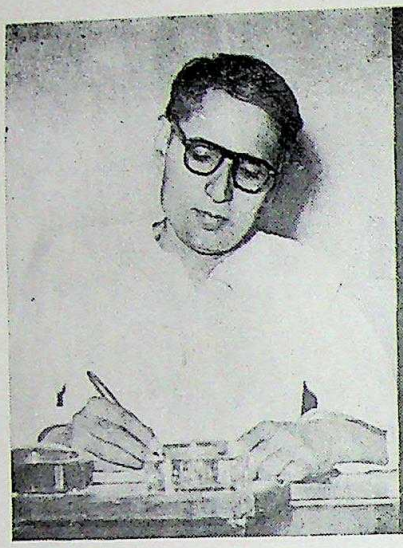
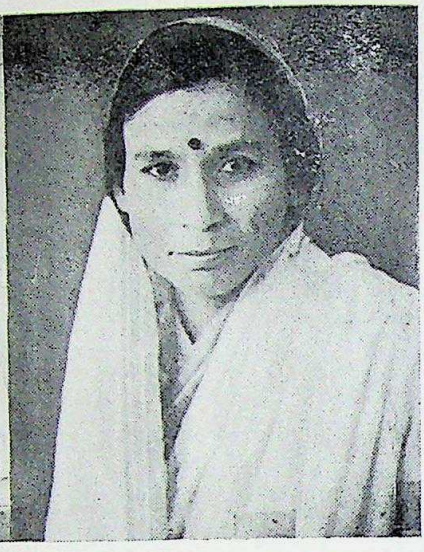
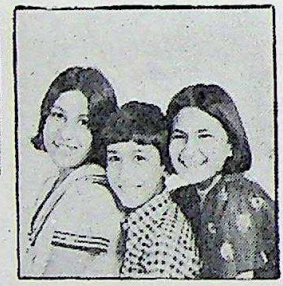
THE FAMILY







Satyavrata Siddhantalankar
(5-3-1898)

Shrimati Chandravati Lakhanpal
(29-12-1904—29-3-69)

Vijay Krishan Lakhanpal
(16-2-1935)

Usha Lakhanpal
(29-9-1939)

Shruti Lakhanpal
(16-5-65)

Vibhu Lakhanpal
(24-8-67)

Richa Lakhanpal
(7-3-63)

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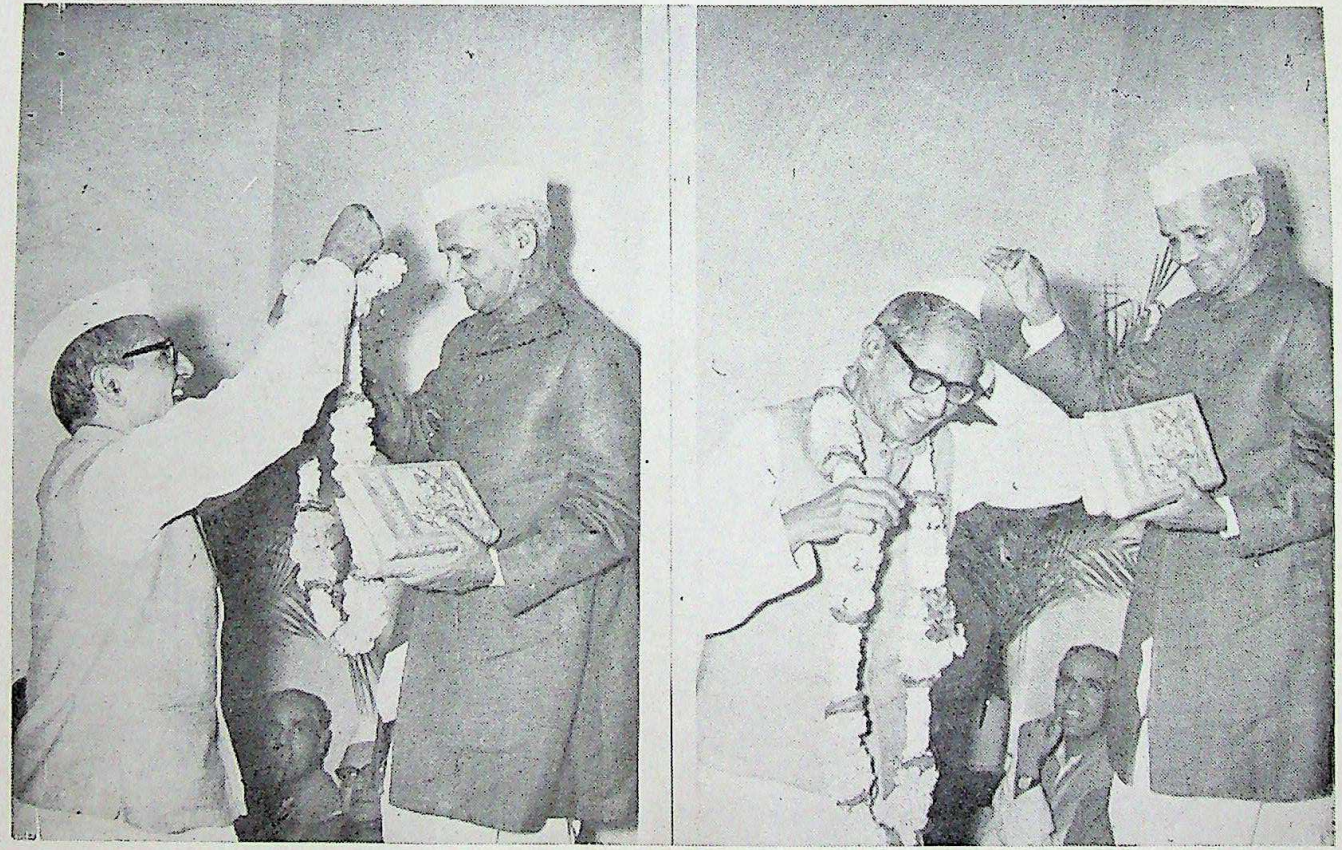

Prime Minister Shri Lal Bahadur Shastri releasing Dr. Satyavrata Siddhantalankar's book—"GITA BHASHYA"—on 24-11-1968

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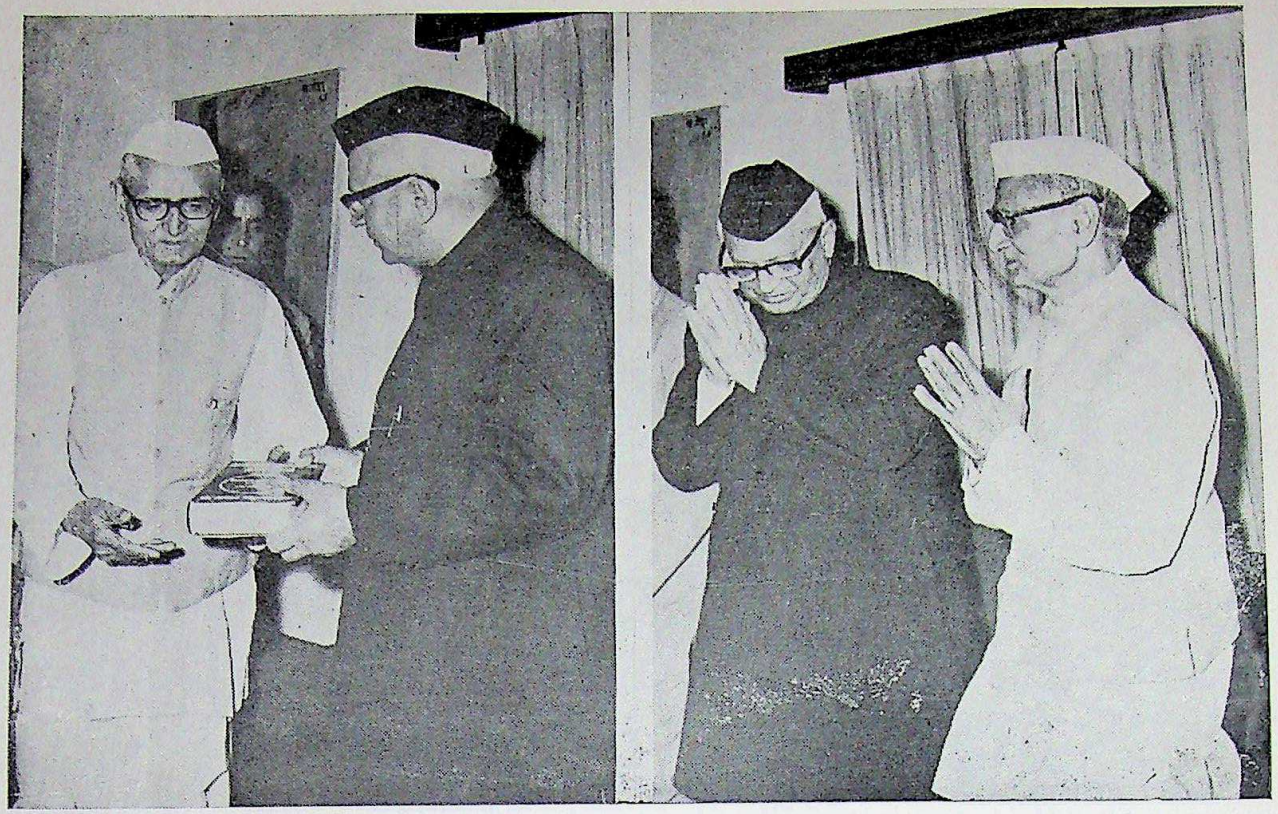

Vice President Shri G.S. Pathak being received by Dr. Satyavrata Siddhantalankar on 8-11-1972 when he released his book : "HOMOEOPATHIC DRUG PICTURES" which has been declared the best book on the subject winning an Award of Rs. 1200/-.

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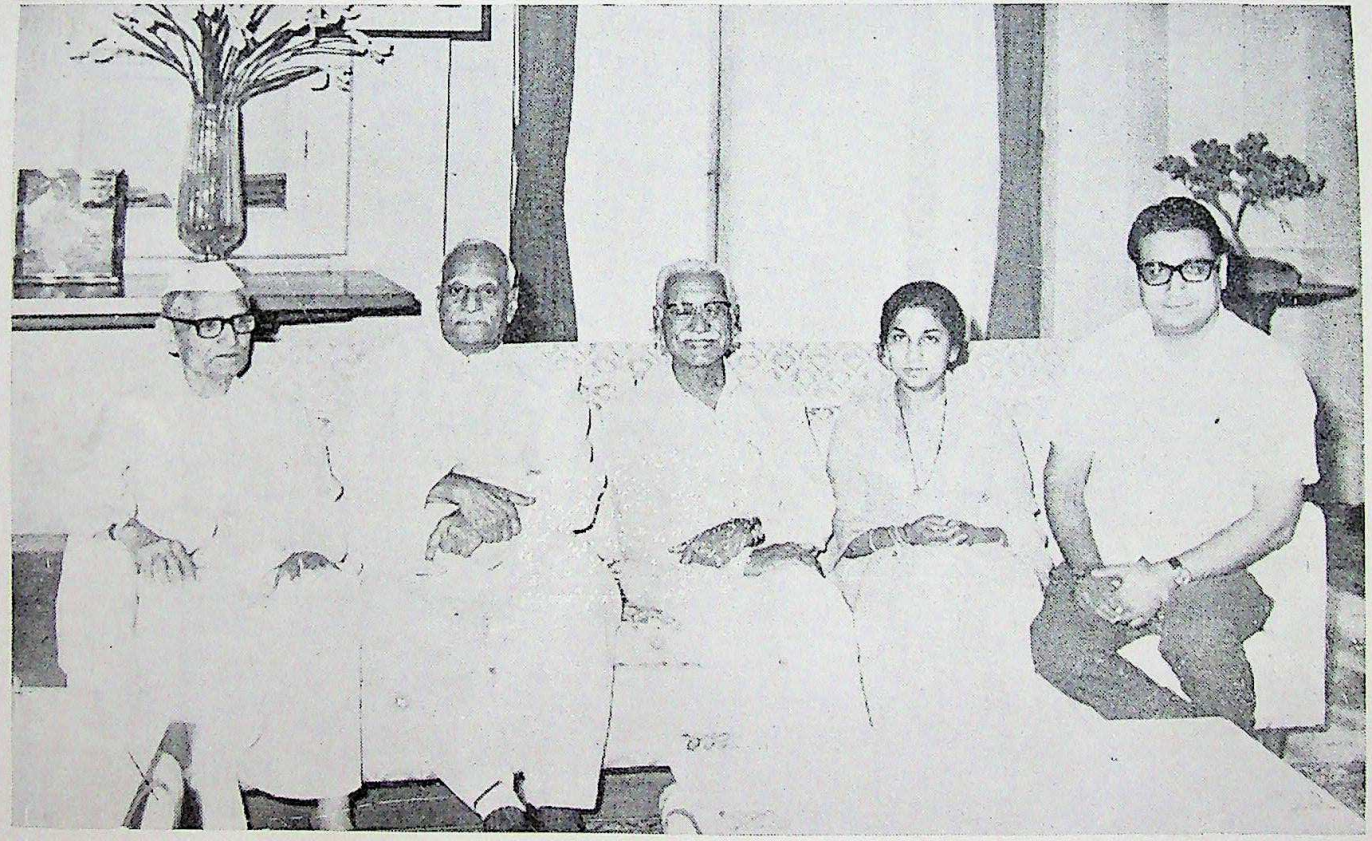

President V.V. Giri released Dr. Satyavrata Siddhantalankar's book: "DISEASES AND THEIR HOMOEOPATHIC TREATMENT" on 26-3-1974. Seated from left to right are: The author; Rashtrapati V.V. Giri; Mayor Hansraj Gupta; Usha Lakhanpal; Vijay Krishan Lakhanpal.

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First Group: Shrimati Chandravati Lakhanpal & Shrimati Indira Gandhi. Second Group: Shrimati Chandravati Lakhanpal M.P., Shrimati Mayadevi Chhatri, M.P. and Prime Minister Jawaharlal Nehru at Dehradun.

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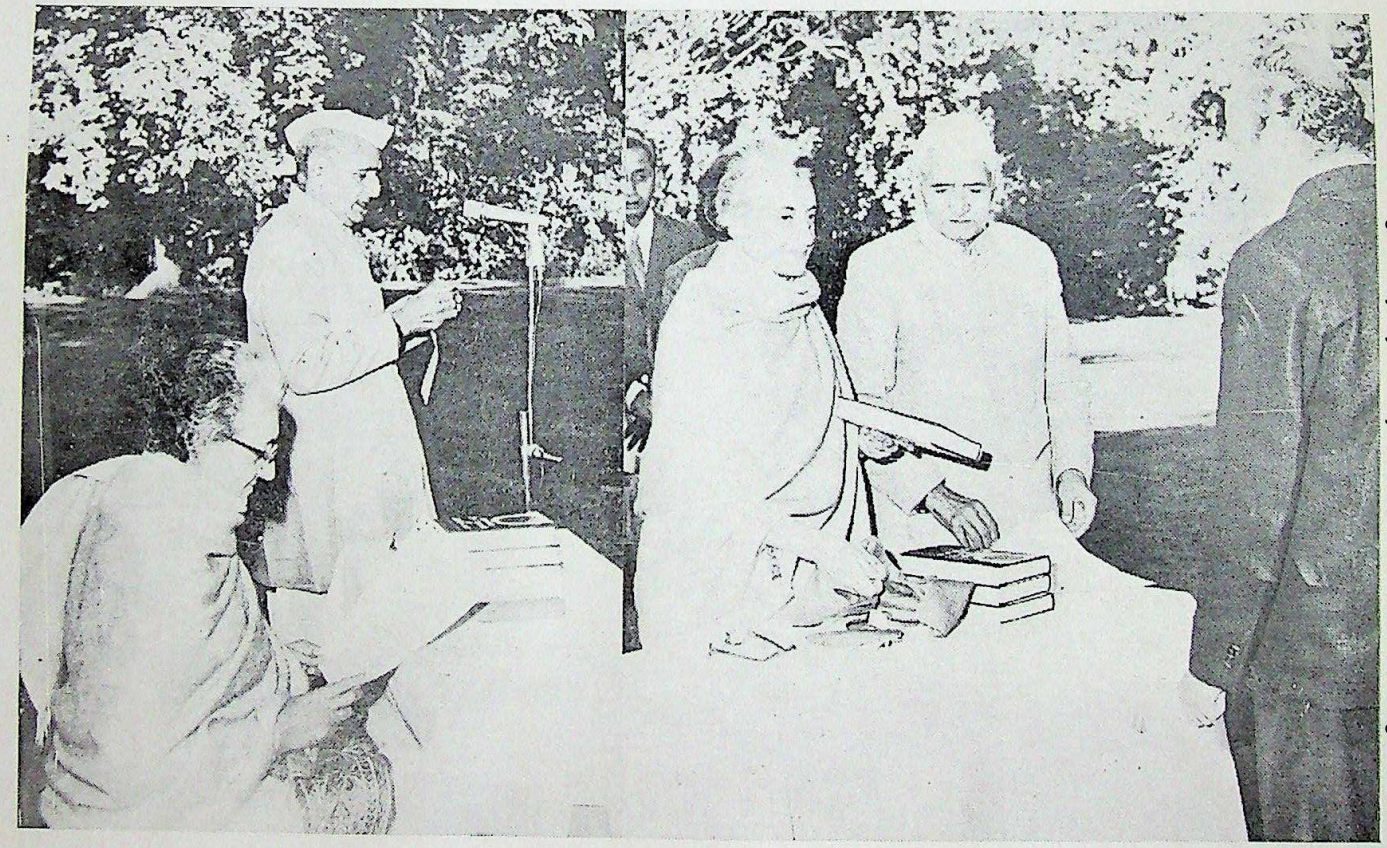

Prime Minister Indira Gandhi releasing on 9-12-1975 Dr. Satyavrata Siddhantalankar's book "SCIENTIFIC BASIS OF VEDIC THOUGHT" (in Hindi) which won the Rajaji Award of Rs. 10,000 in 1982, besides winning other Awards.

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A view of the distinguished gathering present on 9-12-1978 with the Prime Minister Indira Gandhi when she released the book: "Scientific Basis of Vedic Thought". (A Hindi Book Titled: 'वैदिक विचारधारा का वैज्ञानिक आधार')

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CHAPTER I

Problems of Old Age

Solving the problems of old age is called Geriatrics. Etymologically "*Gera*" is a Greek word, which is derived from the Sanskrit word "*Jaraa*" meaning old age. The Hindi word "*Jeerna*", also derived from "*Jaraa*" means feeble, weak, lean and wasted away. In other words, Geriatrics implies the general problems connected with old age, which may be divided into physical, mental and social.

1. PHYSICAL PROBLEMS OF OLD AGE

Old age manifests itself in various physical symptoms. The hair go grey, the face wrinkles, the skin loosens, folds hang under the chin, the knee and other joints get stiff making it difficult for a person to sit or rise. The back bends, disabling an upright posture. These are the obvious symptons of old age ; there are other subtle ones, which an old person alone experiences. For instance, the weakening of sight and hearing, the developing of cataract, and inflammation or hardening of the prostate gland interfering with the normal flow of urine and sleeplessness etc. are symptons which perplex an old man.

Some people start looking old at 50 to 55, while others at 65 to 70, and still others start to look old even later. In every individual some parts of the body remain young in old age, while some parts age earlier. For instance, a person whose face gives the appearance of advanced age may have a digestive system of a youth. The primary cause of the physical ageing is the sluggishness of the circulation of the blood.

Just as water is necessary to plant-life, so is blood necessary to the body. If plants get sufficient supply of water they remain lush green. But if less water is supplied by the drainage

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system or there is no water, the plants will dry up. In the same way, if every part of the body gets plentiful of blood supply, limbs remain young; if not, they begin to get feeble and wasted. With age, the arteries that supply blood to the various parts of the body get weakened. Therefore, the supply of blood to different parts of the body is not sufficient, consequently reducing the strength of the limbs. As enough blood cannot reach every part of the body, the hair, skin, nails, teeth, eyes, ears, bones, joints, heart, lungs, liver, intestines—every part of the body becomes slack. All these are the physical problems of old age.

The main discussion in this book will revolve around how this slackness of the body can be arrested and how the blood supply to every part of the body can be maintained at its highest level. The method described here of keeping the body in a youthful condition has been practised to advantage by the author. He has crossed his eighty-fifth year and every part of his body is in a very healthy condition due to the practice of *Yogic* exercises described in this book. Therefore, the book has been titled "*From Old Age to Youth Through Yoga*".

2. THE PSYCHOLOGICAL PROBLEMS OF OLD AGE

Apart from the physical problems of old age, there are also a few psychological problems, which can be divided into three parts—Feeling of Getting Old ; Feeling of Dependence and Feeling of Loneliness :

(a) Feeling of Getting Old : The first problem is that after a certain age, a person starts feeling that he is growing old. This usually happens when he becomes a grandparent and is addressed by his grand-children as "*Grandpa*". Being addressed thus is enough to make him feel old. Also, when everyone starts referring to him as an old man, he starts feeling and realizing that he has become old. This speeds the process of his ageing.

(b) Feeling of Dependence : The second psychological problem of old age is caused by the behaviour of one's children, daughter-in-law etc. At first the family was dependent on him,

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but now he finds himself dependent on them. At first he used to run the house and got complete obedience from his family, whereas now he has to listen to, and say "yes" to what his children and daughter-in-law say. This results in a strain on him, which prevents him from feeling young.

(c) **Loneliness** : The biggest problem of old age is loneliness. The general practice of retirement from work, leaves a man at a loose end. He does not know how to spend his time. This leads to a feeling of lonesomeness. It makes life a burden. With this kind of attitude, he finds it difficult to feel young.

It will be appropriate to further elucidate on the above points regarding the psychological problems of old age.

(i) **To Begin to Feel Old** : Just as a man's physical condition affects his mind, his mind also affects his body. For instance, when a man attains a high position in life, there is an improvement in his appearance ; when he loses that position his appearance worsens. After retirement one becomes weak and emaciated very soon, because in his sub-conscious the thought takes root that he is now old and of no use. This thought speeds up the process of ageing. There is the story of a man who on retirement was given a farewell party by his subordinates. On reaching home after the party he collapsed of heart failure. The reason was that on the way home he was intently dwelling on the thought of his existence having become meaningless and useless after retirement. The first principle of remaining young is not to consider oneself old, to keep busy as before and to create new interests in life.

Sydney Smith describing the premonition of an old man, wrote in one of his letters :

"One evil in old age is that, as your time is come,
You think every little illness is the beginning of the end,
When a man expects to be arrested,
Every knock at the door is an alarm."

To keep busy, one should work, not necessarily on a salary

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basis as before. There are various hobbies and kinds of work with which one can keep oneself busy. A person who keeps alive, zest, zeal, ambition and hope within himself will remain young despite his grey hair. It is, therefore, upto a man to create an environment for himself in which he feels young.

(ii) Feeling of oneness with one's children : A man's position in his home, after the onset of old age, or after retirement is what bothers him and speeds the ageing process. At first, his children were dependent on him, but now he becomes dependent on them. Unlike previously, no one considers him seriously. He begins to lose self-respect and confidence in himself. To overcome this situation he should create a rapport with his children, so that by communication his earlier position is psychologically maintained. This is an emotional integration. He should not make the children feel that he is inflicting his views on them, at the same time he should make them feel the value of his advice regarding making decisions. He should keep sufficient deposit of money in his account so that he, and particularly his children and daughter-in-law, should feel that he is not dependent on them.

In olden days, instead of trying to create emotional integration with the children, elders used to renounce the home and all relationships and responsibilities, entering the *Vaanaprastha Ashram*. But, then, the economical conditions were different. Today, it is not possible to leave home, nor is it feasible to remain in the home and boss over the household. Therefore, if one wants to foster conditions of youth, it is necessary to be emotionally integrated with one's children, still retaining his financial independence.

(iii) Loneliness : Loneliness is the third psychological problem of old age. All old people with whom the author has discussed old age, have complained of loneliness. In old age generally, either the man or the woman is separated from one's life-partner and finds oneself stranded and alone. Whoever is left, begins to find life burdensome. Loneliness in old age also

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becomes unbearable to those who have remained single all their lives. For instance, *Swami Satyadev*, a great writer, orator and a leader of the masses, who remained a bachelor all his life, confided in the author during the evening of his life that he had committed a blunder in life by not marrying. As a result, till his last days, he had to suffer loneliness.

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However, loneliness can be remedied by keeping oneself involved in some kind of work. For instance, the author lost his wife in 1969, but by occupying himself in writing, he did not experience loneliness. Till today he has written a number of books covering subjects like the *Vedas* on the one hand and *Homoeopathy* on the other numbering more than thirty-five, extending to thousands of pages. The writing of each book has involved, writing, typing, correction, printing, proof-reading and binding. The entire process of writing has been so engrossing that hours have passed like minutes. Keeping busy is his principle in life. He gets up every morning at 4 A.M. and practices for two and a half hours the physical *Yogic* exercises and does *Praanaayaam* for half an hour mentioned in this book. Then, after performing his daily routine-work and reading the newspapers, he gets busy with his writing. Before he knows it, it is past noon and time for lunch. A person so busy has no time to feel lonely.

The author has taken to writing because it has been his hobby from the beginning, though every old person cannot do the same. The problem is what work must an individual choose ? A person who cannot write can take to reading. Through the medium of books, a man can acquaint himself with great saints and sages like *Kapil*, *Kanaad*, *Vyaas*, *Shankar*, *Socrates*, *Plato and Aristotle*. However, people who cannot do mental work should look for some physical work. Generally, loneliness bothers men more than women. This is because women are used to living alone in the house and keeping busy with house-work. Men, who are more used to desk-work, when faced with loneliness are like wanderers lost in a dense

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forest. But it should not be difficult for them to choose some physical work for themselves. For example, a man can take to walking, can take responsibility for some social work, can take interest in some house-work, can learn singing, can take to gardening or farming, or develop some other interest. This will definitely pin down a person to some absorbing engagement and will not let him feel the oncoming of age. The problem starts when a man stays idle at home. Every man should have some hobby or interest in life, as this is like a tonic which keeps him fresh and young in his long voyage of life.

There is no question as to the time when one should develop a new hobby in life. A judge in America, *O.W. Holmes*, started to learn Greek at the age of 94. When asked by a friend, as to why he started learning Greek at that age, he answered : "this is the time for me to try ; when else will I get the opportunity ?"

There are only two ways by which one can escape the blow of old age. Firstly, one can refuse to grow old, that is, one can get so much engrossed in work that the conditions of old age do not appear. Such people, even on reaching the age of 85 to 90 always have a plan for the future. They have an aim or purpose in life, and they get so involved in making a success of it, that they do not realise when death overtakes, neither do they realise the oncoming of old age. The second remedy for not feeling the pangs of old age is to detach oneself from wordly bonds which are the source of all troubles. People who deviate from these two paths in old age—neither have they created a purpose, a hobby or a specific interest in life nor have they developed a sense of detachment—they drag on a miserable existence in old age.

The impact of old age is experienced due to the condition of the mind. Mind has two qualities—positive and negative. The positive qualities of the mind are : truth, love, goodness, co-operation, compassion, friendship, non-violence, character, contentment, etc. The negative qualities are : untruth, hatred,

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jealousy, evil-mindedness, non-co-operation, violence, attachment, etc. The positive qualities increase one's life-span and help to keep away from diseases ; the negative qualities reduce one's life-span, and are conducive to various diseases. The positive qualities drive away worries and bring peace ; the negative qualities cause worries and disturb the mind. To move towards youthfulness one must inculcate in oneself the positive qualities and free one's mind from worldly affairs.

3. THE SOCIAL PROBLEMS OF OLD AGE

The mental problems of old age bring to the fore its social problems. Loneliness is the problem of the mind, but basically it means to be cut off from society. When man is thus cut off from society, he comes to believe in old age. As long as a person is young, he remains a part of one social group or another. A businessman mingles with businessmen ; a lawyer remains engrossed in the company of other lawyers ; Doctors and Professors take interest in groups and societies of their own profession. Thus, they do not feel lonely or fed up. However, with the coming of age, social contacts become less and less and often an individual confines himself in the four walls of his house. After a while, he comes to believe that he cannot go out. When this kind of mental attitude takes root, a man cannot but feel that he is old. People who want to ward off the feeling of old age have to fight this attitude of the mind. Instead of running away from society, one must involve oneself in it. Join social groups, play with children, act young with young people, and even when with old people, continue to act young. There are various types of groups—social, religious, political. One must take active part in the group of one's interest. On doing so loneliness, depression and boredom will cease to be a problem. Loneliness is a negative feeling resulting from want of group-contact and bothers only those who sit idle at home and keep to themselves.

(a) Membership of Social Service Groups : Through membership of various social groups a person can spend his time pleasantly

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in the company of others. For instance, the *Bharat Sevak Samaj*, the Rotary Club, the Lions Club etc. which dedicate their services to various needy people in society offer scope for work. People interested in social service can become members of some social service-group, as being occupied in their activities is a good method of pushing old age a step further.

(b) Membership of Religious Groups : Like social service groups, there are various religious groups, in which every individual can take part according to his belief. Arya Samaj, Sanathan Dharm Sabha, Yogashram, Ramakrishna Mission etc. are all religious groups that give people food for healthy thought. Religious sentiments kindled by such groups, are the best way by which one can get rid of the tensions of life. These groups give a person peace of mind and draw him away from the complexities of existence. The complexities are the cause of tension, and tension reduces one's life-span. Hence, membership of one's favourite religious group, apart from taking care of loneliness, gives a man peace of mind. The more peace a man can attain from such groups, the longer will his life-span be.

(c) Membership of Political Groups : Apart from social and religious groups, one can also keep occupied by joining political groups. As mentioned earlier, the secret of a long life is to keep oneself occupied. Idleness signifies immobility of mind and body which is nothing but a sort of partial death. People for whom social and religious groups hold no interest can join political groups, and even in old age enjoy enthusiasm of youth. For instance, *Gladstone* and *Clemenceau* were Prime Ministers of their respective countries, and even at the age of 80 they had unlimited strength and enthusiasm.

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CHAPTER II

Causes of Old Age

Like other diseases, old age is a disease. Once it has taken root, it progresses like other diseases. As a person's age increases, so do the factors that cause old age. The main physical cause of old age is that sediments and deposits collect in the joints, the arteries and the veins. Due to the collection of these deposits the numerous organs become stiff and a general deterioration of the body sets in. As a result, the various parts of the body begin to lose their elasticity and tend to become stiff. The elasticity of the limbs is synonymous of youth, and the lack of elasticity is synonymous of old age.

In youth, there is a great mobility of the joints, they can be turned in various directions at will—forward, backward, up, and down. There is no difficulty or pain in doing so. In old age, this mobility is reduced. If one moves the joints one experiences pain. It is like bending a dry branch. This is because of the dregs that have collected in the joints, arteries and veins. Although there are numerous other factors that cause old age, this remains the main cause. When chalk-like sediments and excess of uric acid collect in the joints, and arteries are loaded with cholesterol, they become stiff and tend to shrink. This condition is called arteriosclerosis. As the deposits settle in the joints and the arteries shrink with cholesterol, an all-round deterioration of the body begins. Old age is nothing but this phenomenon. If by some method, the stiffening of joints and shrinking of arteries known as arteriosclerosis can be stopped, the body will retain its flexibility and hence youthfulness. Around middle age, that is, around 55 to 60 years of age, signs of arteriosclerosis become imminent, elasticity of the body begins to lessen, pain in the joints is being felt, ordinary ailments take longer to be cured than expected and there is a feeling of tiredness. If at this age, the method of exercises and treatment mentioned in this book is regularly practised, it can be assured that the pace of ageing

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will be greatly slowed down, the body will regain its elasticity, the deterioration of the organs will be stopped and a man of 55 will begin to feel like a man of 40.

It would be stupid to believe that old age can be altogether avoided. Just as youth gone cannot return, old age having come cannot be put off by any magic. However, if one practices the methods explained in this book, one can delay the onset of old age, attain longevity and keep the body free from diseases of old age. A person of 70 to 80 years can begin to feel like a person of 50 or 60. Actually a man is as old as he feels. A man of 50 can be so tired and sickly that he looks 70 or 80 ; while a man of 70 or 80 can be as active as a man of 50 or 60. How can this happen ?

As mentioned earlier, the main cause of old age is the deposit of uric acid and other sediments in the joints, and in the arteries and veins of cholesterol contained in fatty foods, which leads to their stiffening and shrinking. These sediments are just like those that we notice at home in buckets in which water has been standing for a long time. A similar white coating can be seen in the pipes of a boiler in which water with some lime-content has been used. If this white substance is scraped out from within the bucket or boiler, they become clean and begin to function as before. The same thing happens within our physical pipeline through which the blood flows in the body, namely, the different joints and the arterial and venous system. As we have already stated this phenomenon is known as stiffening of joints and arteriosclerosis, and this is the cause of old age. It cannot be remedied by any medicine or change in diet. Theoretically it may be said that if food free from lime, or with very little lime-content is eaten or if food, generating uric acid or cholesterol is avoided, then deposits will not be formed in the joints and arteries. It would be advisable to do so but circumstanced as we are it would be impractical.

Before we go further, let us try to understand better this process of the clogging of the circulatory system. Regarding this subject, *Dr. De Lacy Evans* writes in his book, *How to*

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Prolong Life : "The most marked feature of old age is that fibrinous, gelatinous and earthy deposits have taken place, the latter being composed chiefly of phosphate of lime with small quantities of sulphate of lime, magnesia and traces of other earths." When these elements settle in the arteries, they begin to deteriorate. In this connection *M. Gubler* says : "By anatomic examination it is found that the thickening and induration of the muscular membrane is due to the accumulation of a whitey, yellow, granulous and fatty substance, essentially of mineral composition, the greater part of which is represented by the carbonate and earthy phosphates. These deposits naturally result in the process of life, and with years, will increase just as the cakereous incrustations form in the boiler tubes, and are just as detrimental to the human mechanism". Besides these mineral deposits which make the joints inflexible, the eating of meat, Ghee (clarified butter), milk and fat is also one of the important factors that lead to the clogging of the arteries. Fat contains an element called Cholesterol which causes a layer of fat to be formed in the arteries. This, coupled with the lime deposits that collect in the joints and arteries, causes the arteries to thicken, stiffen, reduce in diameter and shrink in old age. The shrinking of the arteries reduces the circulation of blood in the brain ; due to a shortage of blood, the power of the mind begins to ebb. The mind begins to show signs of age, that is, the power of memory and consequently the power of thought begins to wane, intelligence and the capacity of concentration is also affected.

Apart from being the main cause of the deterioration of the mental powers, arterial clogging is also the reason why limbs, organs and muscular structure begin to waste away. A network of arteries and capillaries exists in the body. It is through this network that blood circulates to and from the various limbs and organs of the body. The blood also carries with it a few earthy elements, which tend to settle as deposits in various parts of the network. Due to these deposits the tubes of this network tend to block and narrow down in diameter, so that the circulation of blood becomes inadequate. Consequently, the arteries and capillaries cannot supply enough

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nourishment to the limbs and organs, which therefore begin to get weak. This is the fundamental nature of old age. The technical word for it, as already said, is arteriosclerosis, that is, the stiffening of the arteries. If the deposits can be removed from the system, and if their further production can be stopped—the body will regain its suppleness and youth. Through the *Yogic* system that is going to be elaborated in this book, it is possible to rid the body of these deposits. People who have given it a try have regained the elasticity of limbs and even connoisseurs have conceived in them a glimpse of youth.

As people grow old, one can see age affecting their gait. If you watch children at home they often run, not walk. On the other hand, there is a slackness in the gait of old people. After the age of 75 the slackness often gives way to staggering. This is because a person's muscles lose their strength. This loss of strength of a person's muscles, reduces the control a person has over his muscles. If the instructions contained in this book are followed, an old person can regain the swiftness of his former gait. An old person can also run at a trot, so as to avoid panting after running at a steady, moderate pace, his pulse will come back to normal in a couple of minutes. Wrinkless will not appear on the face, if they have already appeared, they will be wiped out. If they do not get wiped out, they will lessen. The face will brighten up and with a glow on it, it will appear younger.

The physical condition of man depends on his arterial system. It is, therefore, important that all possible methods are used to keep this system free from clogging elements. If this is not done, then enough blood will not reach the muscles, limbs and organs. As a result, it will be difficult to repair the depreciation that takes place in them. When clogging happens, the characteristics of old age will become evident. The body will lose its health and nimbleness. This can happen to people even at a young age, and cause them to look old although they may be young in years. The main cause of the hardness of the arteries and the limbs lies in the water we drink. Water contains various combinations of lime. As soon as they enter the body they begin to settle down and affect the arterial

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system. It is normal for the people to suffer from arterio-sclerosis or hardening of the artereies if they are living in regions where the calcium or lime-content is higher in water. For instance, in hilly tracks where people use water from springs for cooking and drinking, the signs of old age appear at an early age due to arteriosclerosis.

People who use water mixed with lime and other minerals, live for a shorter period and the features of old age become evident in them rather early—the reason being that such water is conducive to the hardening of arteries. Geriatricians advise the use of distilled water as, water that has been filtered in this manner, will be free from lime and minerals. Being free from these elements, it will not allow deposits to clog the joints and the arteries and veins thus assuring free flow of blood. For this very reason distilled water is used in boilers in order to avoid the formation in its pipes of a thin crust caused by the lime in the water.

Principally, distilled water is the answer to this problem, but it is not possible to put it in practice. How many people can afford to instal a laboratory in the house. We must, therefore, think of a cheaper practical and easy method of maintaining the health of the arterial system.

There is one such method which has been experimented upon for years. It can be said with confidence that through the practice of this method, old age can be put off to some extent. If one begins the practice of this method at the right time, old age can also be avoided for quite sometime. A depreciated body can be repaired and change can be brought about.

The settling of lime, calcium, minerals, cholesterol and uric acid deposits in the joints and arterial system is a purely physical process. Just as the mineral deposits, settled in buckets in which water has been standing, are removed by scraping them out, deposits settled in the joints and arterial system and the muscles, can also be removed by a similar physical process. This process is the process of nature. Nature has

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just one method of removing crusts and deposits which may have collected, namely, *friction*. Through contraction and relaxation of the muscles friction is caused in the joints, in arteries, veins and muscles of the body. This friction loosens the minerals, the cholesterol and uric acid deposits stationed in the joints and arterial system, and makes them flow out with the blood and get eliminated through the excretory system. This cleanses the joints, cleanses the arteries, veins and muscles, increases the diameter of arterial system and allows a free flow of blood. Thus, by the process by which these elements had entered the body, by the very same proeess, on being separated from the body, they leave it. Medicines or various kinds of foods can in no way excrete the elements that clog the arterial system. The only way of cleansing the arterial system is by contraction and relaxation of muscles which are the beds of these deposits. Contraction and relaxation are just another name for friction. We have elaborated in this book various exercises causing friction. If the joints and arterial system can be kept free from the above-mentioned deposits, the joints and arteries and veins will remain as active as the joints and arteries and veins of a young one. The heart will be able to supply blood to the various limbs without any difficulty. Hence, nourishment will reach the various parts and organs of the body and impart to them elasticity, strength, swiftness and youth.

Apart from dregs of minerals, uric acid and other elements that are expelled by friction from the arterial network, dead cells also form sediments in the blood system—muscles, limbs and joints. This robs the body of its elasticity. Dead cells result from a natural life-process. They cannot be expelled from the body by any particular medicine or food. But it is important not to allow them to settle in any part of the body, if one wants to fight old age or increase the life-span. Muscular activity is the only natural method by which this can be achieved. The scientific mode of contraction and relaxation of the muscles expels not only dead cells but also other deposits from the body. A cleansing of the limbs takes place, and deposits settled in the arterial system and elsewhere are loosened and thrown out, thus allowing a free flow of blood. News-

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papers are full of various life-giving medicines, lymph and serum injections and tonics, but it must be remembered that so far no medicine has been invented which can put a stop to ageing. However much nourishing food or much talked about and advertised medicines one may consume, the process of ageing cannot be stopped. Age can be countered only in one way, that is, by removing the accretions from the arteries, veins, muscles and joints, which clog and cause them to stiffen and shrink. The impediment of the arteries by the layer of cholestrol sticking to their walls does not allow a free flow of blood, but when by friction these accretions are broken up they can be removed. For example, when water flows down a street, the garbage of the street flows with it. After a while, the garbage settles to the bottom or gets stuck at places on the street, thus inhibiting the flow. In order to remove the impeding scum, a brush can be used to loosen and remove it. In the same way, the accumulated mineral elements and dead cells do not allow a plentiful flow of blood. As a result nourishing elements do not reach the organs, making them lethargic. The only way to remove these sediments is to keep the joints, muscles and arteries active through frictional exercises. By contraction and relaxation of the various parts of the body, friction is produced, and the body is cleansed of all waste elements, dead cells and uric acid, that had collected in the arteries, muscles and joints. For instance, if a nail is struck in a piece of wood, we move it backward and forward in order to remove it. It becomes loose due to, to and fro movements. The moving of the nail forward and backward is synonymous of contraction and relaxation which again is another name of friction. Similarly, through contraction and relaxation an activity is produced in the muscles and joints which should be coupled with friction. Through friction, foreign matter that had been impeding the free flow of blood is removed. Hence, contraction and relaxation of the limbs and organs of the body along with friction of the skin is the secret of youthfulness, it can delay the coming of age and bring elasticity to the parts of the body that have begun to age. In common parlance contraction and relaxation of muscles by their friction may be called massage of the body.

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In children, the elasticity of their limbs is the secret of their youth. Nature has endowed them with this secret. Through their activity, they do not allow dead cells to settle in the blood system and joints. This is the only way Nature has devised of maintaining youth. For years man has dreamt of keeping the body young with the help of medicines to preserve its activeness, nimbleness and freshness. Man has been in search of an alchemy by which he can defeat old age. Ayurvedic, Yunani and Allopathic systems have invented different kinds of tonics to preserve youth but these so-called elixirs of life made their users age before time. Although people have been fooled and quacks have collected money by advertisements they have themselves fallen victims of various diseases which they advertise to cure. Till today we have been relying on medicines to prolong life, but it can be confidently said that the secret of a long life is hidden within us and it does not lie in anything outside. Expensive medicines of Doctors, Vaids or Hakims cannot help us in prolonging life. The secret lies within us for which we need not spend a single penny. This secret is bestowed on man by Nature since birth, namely, the activity of the muscles. Old age can be put off by remaining active which is innate in man, not by lying in bed and consuming tonics. This is apparent from the fact that as science is advancing, interest in *Yoga* and physical exercises is also increasing. These days, in every hospital, physicians have started proclaiming physiotherapy as the best treatment for keeping young. As mentioned earlier, dead cells interfere with the blood circulation, thus, robbing the body of its elasticity. Let us make this point clearer. In order to remain physically young, it is necessary to know why we grow old. Man's body is made up of minute cells which number in crores. These cells are so minute that they cannot be seen by the naked eye. They can be seen only through a microscope. They are the products of the food we eat and the water we drink. Then, through the process of digestion and assimilation, these cells continuously multiply producing more cells by division resulting in cellular tissues. After the creation of these tissues, the parent cells cease to exist individually. Just as human beings die giving birth to their progeny, these cells

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also die. When these cells die it becomes necessary to remove them from the body. If the dead cells are not removed from the body, the elasticity of the organs of the body and the free flow of blood will be thwarted, just as the free flow of water is thwarted by rubbish. As a result, the limbs and organs do not receive the nourishing food from the blood, the muscles begin to grow weak, the limbs begin to shrink and other symptoms of old age appear. If this litter is removed from the body, conditions of youth will remain or reappear. This can be achieved not by consuming medicines, but by following Nature's method of contraction and relaxation of the muscles. This will force out the waste matter which is impeding elasticity and will bring back vigour to the body. If it remains in the arteries, veins, cells, muscles, glands and joints, it will weaken the system, make a man or woman inactive and make him or her look old. After being loosened, waste matter leaves the body in the form of excreta, urine and sweat and makes the body feel light. If, as explained in this book, the limbs and organs are exercised they will remain active, the entire body will experience a glow of youthfulness. This will also make the muscles brisk and strong. When the muscles become strong, they also increase in size. As muscles have a habit of increasing and decreasing together with other muscles, this phenomenon will take place in all the muscles and glands of the body. This will make all the muscles and joints of the body strong. These exercises can be performed while lying in bed or on a mat or blanket spread on the floor. By the practice of these exercises various individuals have received the benefits of youth. Performing these exercises does not require any dumbells or heavy clubs or weights. These exercises are meant for people past their prime of youth or for people who do desk-work all day long. Men and women can practice them alike. These exercises have been very helpful in expelling from within the body foreign-matter which is the main cause of old age. Quick recovery from rheumatism, arthritis, indigestion and numerous other diseases also results. If an individual is not already troubled by these diseases, he will remain free from them.

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When discussing old age, the work and condition of the glands cannot be forgotten. The glands in the body secrete various types of secretions. However, with the advance of age, they become weak so that there is a shortage of their secretions. Consequently, the signs of old age make their appearance. The skin becomes loose resulting in folds and there is a general loss of flesh in the body. So long as glands remain in this condition the vigour of the body cannot be restored. The singular cure to this condition lies in the stimulation of the activity of the muscles. It makes the glands perform their function in a proper manner. Their secretions make the body strong and healthy. The glandular system is therefore very helpful in keeping youth stable. Muscular activity also affects the glandular system by making it active. When the glandular system becomes active the food eaten is assimilated by the body. Assimilation is an important condition of organism as it ensures that whatever is eaten becomes part of the body and does not simply flow out. This is possible only if the glandular system is in a healthy condition. The glandular system can remain healthy only if the muscles surrounding the glands are healthy and active.

Experience shows that people who have practised these exercises of contraction and relaxation and continued physical activity along with friction of all kinds described in this book have put on weight if they were thin and shed off fat if they were bulky. This is so because the glandular system in the body of these people becomes automatically active along with the introduction of elasticity of the muscles. In the case of thin people with the activity of the glands, the process of assimilation is quickened. The food that earlier could not become part of the body as it was not digested becomes a part of it and consequently the individual puts on weight. On the other hand, when people who are fat, bulky and heavy do these exercises, their glands become active, and the unwanted fat of their body begins to reduce.

What is health ? A person who does not feel he is unhealthy, is healthy. Not to feel unhealthy means not to have

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any awareness of one's body. If the parts and organs of our body have no problem, we will tend to be generally forgetful and unaware of our body. People who are unaware of their body are healthy, whether they be thin or fat. If a thin person constantly feels that he is thin and a fat person constantly feels that he is fat, both of them are unhealthy. Being fat or thin in itself is not a sign of healthiness or unhealthiness ; there is a standard regarding every individual's weight. A person is healthy if his weight is in harmonious accord to his height. If his weight falls short in correspondence to his height, he is thin, even if he does not appear to be so, and his weight is inadequate. If his weight is more than what it should be with reference to his height, then he is fat. Just as the weight of a person can be tested from the point of view of his height, in the same way, the height of a person can be tested from the point of view of his weight. The balance, equilibrium and proportion between height and weight should be rightly maintained. If the height and weight are proportionate, the individual should be considered healthy, if they are disproportionate then the individual should be considered unhealthy.

We are giving hereunder a chart showing the standard weight with reference to height regarding both men and women.

The figures for the ideal weight and height of healthy men and women above the age of 25 mentioned in the following two pages have been taken from *E.V. Cowdry's* book "*The Base of the Geriatric Patients.*"

These figures have been quoted from Metropolitan Life Insurance Company. Statistical Bureau, 1953.

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IDEAL WEIGHT IN POUNDS FOR MEN AT ALL AGES OVER 25 YEARS OF AGE

Height and Weight Chart for Men

Feet	*Inches*	*Small Frame*	*Medium Frame*	*Large Frame*
5	2	116—25	124—33	131— 42
5	3	119—28	127—36	133— 44
5	4	122—32	130—40	137—149
5	5	126—36	134—44	141— 53
5	6	129—39	137—47	145— 57
5	7	133—43	141—51	149— 62
5	8	136—47	145—56	153— 66
5	9	140—51	149—60	157— 70
5	10	144—55	153—64	161— 75
5	11	148—59	157—68	165— 80
6	0	152—64	161—73	169— 85
6	1	157—69	166—78	174— 90
6	2	163—75	171—84	179— 96
6	3	168—80	176—89	184—202

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IDEAL WEIGHT IN POUNDS FOR WOMEN AT ALL AGES OVER 25 YEARS OF AGE

Height & Weight Chart For Women

Feet	*Inches*	*Small Frame*	*Medium Frame*	*Large Frame*
4	11	104—11	110—18	117–27
5	0	105—13	112—20	119—29
5	1	107—15	114—22	121—31
5	2	110—18	117—25	124—55
5	3	113—21	120—28	127—38
5	4	116—25	124—32	131—42
5	5	119—28	127—35	133—45
5	6	123—32	130—40	138—50
5	7	126—36	134–44	142—54
5	8	129—39	137—47	145—58
5	9	133—43	141—51	149—62
5	10	136—47	145—55	152—66
5	11	139—50	148—58	155—69

According to Nature's plan, it should be our aim to achieve a standard weight and height to enjoy a healthy life. However, due to a fault of our own, very few of us manage to achieve the standard. If there be an equilibrium between Assimilation and Elimination and the mind and the body retain their elasticity, then an individual can live up to a 100 years and more, and still not experience the rigours of old age. Activeness, hopefulness and a pleasing personality are very helpful in prolonging life. Dwelling constantly on old age

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with both hands down hastens the onset of old age. Also, the lack of mental activity in youth reduces the number of years in a man's life. If a man constantly decries his fate and lot he will not have the desire or will-power to inspire life within himself. He will become a failure of his own making, with no hope for a long life. This pessimism will also affect his digestion and liver. He will be unable to live his life with zeal and courage. Pessimism will make him feel that there is nothing to live for. There is only one way by which these forebodings of darkness can be overcome, namely, by setting one's body and mind to work, by maintaining physical and mental activity. To keep oneself young, it is necessary to do physical work. To keep the mind young, it is useful to do mental work. An all-round deterioration sets in when people do not use their body and mind. A long list can be prepared of successful but aged philosophers, writers, orators and politicians. All of them had just one secret — they never allowed their body and mind to idle away. They never neglected their body, and their minds were always alert and active.

It is commonly said, "If you **rest** you **rust**". The German scholar *Goethe* had said : "without **haste**, yet without **rest**". In the *Vedas* it is said "*keep going, keep going*". If one sits down doing nothing but simply rests, one will begin to rust and grow old. If one desires a long and healthy life, one must keep the body and mind active and thereby prevent them from getting rusted. If we allow ourselves to rust, our usefulness will come to an end and we will be discarded like other things in a garbage-dump, and our life-span will be considerably reduced. The body and the mind are very closely connected, if one of them begins to get weak, the other will follow the same path. Therefore, to put off old age, it is important to keep the body and the mind alive. This book discusses, in detail, the best method of maintaining this kind of liveliness.

How the mind can be animated depends on a man's interest, habit, ability, nature and environment. An individual can take interest in social work. He can always find for himself an

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atmosphere in which time can be spent in an agreeable manner. There are temples, societies, schools, programmes for the uplift of the down-trodden, programmes for tending the sick, opportunities for entertainment, picnics—and individual can occupy himself in any one of the above-mentioned. Keeping the mind active, instead of sitting idle at home, is an important method of maintaining youth. When a tree stops growing, it begins to dry up. If it continues to grow, the process of its drying up is slowed down. The same is with man. One should keep the company of people who are happy and gay, fond of laughter, play, song and dance. People of such temperament are young, with them the onset of old age is delayed. One should keep the company of happy-go-lucky people. He should also become a member of some society or group, the membership of which will keep him active and full of spirit.

HOMOEOPATHIC REMEDIES

In old age the general complaint is that of debility or weakness. We are giving here some of the remedies which can be administered in old age according to symptons of weakness :

(a) **Coca** : Mother tincture, 2C or 3C—Palpitation, difficult breathing, fatigue, sleeplessness are some of the complaints of old age in which this remedy is helpful. Generally, these complaints are suffered by those who do hill trekking. It is useful in physical and mental fatigue also.

(b) **Mephites** : 1 C, 2 C or 3 C—In low potency this remedy gives strength to the nervous system and removes exhaustion. It is specific in croup (Inflammation of the larynx and trachea).

(c) **China 3X and Ferrum Phos 3X** : These remedies can be given separately or in mixture to remove the weakness of old age. Even in ordinary weakness these are useful.

(d) **Alfalfa Tonic** : This is a Homoeopathic tonic which helps the process of assimilation. It stops the degenerative process of the system. Twenty to thirty drops can be taken before lunch and dinner for some days.

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(e) **Avena Sativa** : This is a tincture of oats. Oats are generally given to horses for strength. *Avena Sativa* is a nervous tonic and helps in strengthening the nerves and induces healthy sleep. Ten to twenty drops in warm water may be taken.

(f) **Thiosinamine, 2 x or 3 x** : *Dr. A.S. Hard* has suggested that this remedy taken in 2x or 3x potencies half a grains twice a day is useful in retarding old age. It is made of mustard seeds. See also chapter 7th.

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CHAPTER 3

Will-power To Remain Young

Will-power has a strong effect on the body. Experiments have proved that through will-power the heart can be made to beat fast or slow. Likewise emotion also has a strong effect on the beating of the heart. For instance, anger and fear have an immediate effect on the heart. Panic can cause people to faint. Emotion can cause the heart-beats to slow down to such an extent that even death may result. By constant concentration on any one part of the body, a change can be brought about. For instance, by concentrating on the face, one can make the face flush or go pale, one can even bring about a swelling in any part of the body. An example of this can be taken from the Christian world. In monastries, priests, through constant concentration, have been able to produce on their bodies marks exactly like the whip-marks on the crucified body of Christ. Just as concentration can cause pain to a particnlar part of the body, in the same way it can also remove pain. Anger causes the saliva in the salivary glands to dry up, it makes the mouth dry. Worry and fear affect the digestive process, as due to these emotions the secretion of the enzymes in the stomach is prevented.

This makes it clear that will-power is an important factor in controlling our lives. According to Indian philosophy it is not the body which creates thought, it is thought which creates the body. The face is a mirror which reflects thoughts of an individual. Cruelty within speaks itself out in the face. Gentleness within sheds gentleness without. This becomes obvious when you mark the difference between the face of a saint and that of a butcher. There are certain mental qualities that play an important part in the formation of exterior features of an individual—thoughts, emotions, habits, temperament, will-power, love,

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jealousy. This does not mean that the body has no effect on the mind. The body also has an effect on the mind. A healthy body fosters happiness, zeal and joy. However, it cannot be denied that these mental qualities of happiness, zeal and joy are conducive to physical well-being. Regardless of which is stronger, it is important for us to understand that the strengthening of the various parts of the body as well as the blossoming of the mind are inter-dependent. If we wish to bring back the vigour of youth through the exercises explained in this book, our aim can be achieved speedily if we have the requisite will-power. The co-operation of a man's will-power is very helpful in the success of exercises meant to eliminate foreign-matter-deposits from the arteries, by contraction and relaxation. These exercises also strengthen the muscles. Just as the muscles of the body become strong through exercise and practice, will-power also becomes strong through practice. Will-power cannot be strengthened without use. For instanee, if one wants to practice the exercises mentioned in this book regularly, will-power will have to be used. Will-power will help in overcoming temptation of remaining in bed instead of getting up to exercise. The use of will-power, will make the will-power strong, remove laziness and ensure regular practice of exercises.

If things were as difficult as they seem at first, one will never be able to develop in any direction. For example, when a child starts learning, he experiences difficulties every moment. But as he continues to study, the difficult portions begin to seem easy. It is, therefore, important to completely involve one's mind in work with the use of will-power. We should, for instance, instead of lying lazy, involve ourselves in exercises. If, through will-power, we practice our exercises regularly, we will begin to enjoy them, what seemed difficult will become easy, will-power will become strong and what used to seem difficult and unpleasant will become a matter of habit. The exercises will give a feeling of youthfulness. Therefore, one will not neglect them. A stage will come when, they will become unavoidable part and parcel of one's daily routine.

Just doing physical exercises is not enough. Exercises strengthen only the muscles. Man, however, is not just a bundle of

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muscles, arteries and veins. There is within man, a mind, a will-power and emotions. If a relationship is established between the mind and arteries and veins, a full development of the personality will take place. If there is a co-ordination between the two, the body will become strong and so will the will-power. Then, the two of them will derive strength from each other. Concentrate your will-power on the part of the body that is being exercised. When exercising the arm, the entire will-power should be concentrated on the muscles of the arm, when exercising the chest, it should be concentrated on the muscles of the chest. When you exercise any muscle of the body think that the blood is flowing to that muscle. You will find amazing development will take place.

We have to, through exercises, activate the muscles, organs of the body as well as will-power and the mind. The mind and the body will affect each other. As man is a combination of the body and the mind, both have to be kept activated for the achievement of youthfulness.

Our mental make up has an everlasting effect on health and longevity. If a man is determined to live long, he can definitely live long, if a person feels that he is now growing old and loses the joy and enthusiasm for living, then, his life will definitely be shortened. His vigour for life will begin to wane. He will lose courage and faith in himself. When a person begins to feel the burden of age, his activities and movements become slow. He confines himself to the four walls of his house and becomes feeble and weak. The circulation of his blood becomes sluggish, the zest for life subsides. Consequently, the vigour of the body fails. When these signs of old age appear, man loses faith in himself, and becomes old in the true sense of the word. There is truth in the famous saying : "You are as old as you feel". If a man thinks that he is getting old, the negative thought itself will help in speeding the oncoming of old age. By strength of the will a man must not let this thought enter his head nor should he let any one say to him that he is getting old. People who keep saying that they are getting old,

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get old prematurely. If, with a strong will one refuses to let old age overpower him the signs of old age will abstain from appearing. One should always think young and act young. As a result, inspite of a man's age, he will look young and will feel young and people will look at him as young. When he is considered young by everybody, he will actually experience that he is young. There are two factors that generally make a person feel old. Firstly, as a man advances in years he begins to think that he is getting old; secondly, the company of old friends makes him feel old. To change this, it is necessary to change the entire environment. Instead of keeping the company of old, decrepit, good for nothing people, one should seek the company of young people bubbling with life. Be with and play with children as much as you can. If a man begins to think, feel and act young, his friends will also begin to consider him as such. When this happens, half the battle is won. Consequently, the individual will begin to take pride in his physical well-being and the fear of losing it will strengthen will-power and keep it constantly alive so that the vigour of youth can be maintained.

The extent of the effect of will-power on the body is abundantly proved by Faith Cure. The author has a friend who is a doctor and lives in the village of Purkazi near Roorkee. When he visited him, he found his table strewn with injection-capsules. On being asked, the doctor explained that the patients in the village are not satisfied with the treatment unless they are given an injection. They keep asking for an injection, they do recover; and this on being given simple distilled-water-injections. At a London hospital it was experimented as to how many people can get cured without medicines, by faith alone. Out of 100, 50 patients were given medicines and 50 were given distilled water injections. The same number of patients were cured with and without medicines. This is nothing but the wonder of will-power. Many priests and saints give nothing but a little ash, and the patient is cured. To win faith, one medium is required. For instance, to win faith of patients and to cure them, distilled water injections or ash is used. The underlying prin-

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ciple of Faith-Cure is that if a person keeps engrossed in the thoughts of a particular illness, that illness is bound to afflict him. But if, while suffering from an illness, one is kept on the thought that he is getting cured one gets cured. As stated above, this has been proved by experiments. If a man develops faith in some *Mantra* in course of time he finds that the *Mantra* has done the trick. It is faith in the *Mantra* that cures him. If the *Mantra*-giver convinces the patient that come what may, the *Mantra* is going to cure him, then, however imaginary inaccurate and scientifically ridiculous that *Mantra* may be, it is bound to achieve the desired result. Science may refuse to accept the *Mantra* as a remedy to disease and declare that it is blind faith, but we are only concerned with the result, and the result shows that will-power has the strength to bestow a new life and youth on man. That is why a simple visit of the docter in home or in hopital puts a new life in a patient.

History is not wanting in instances which prove that through faith and the power of the mind physical diseases can be cured. For instance, in Europe in the days when they believed in the divine origin of the Emperor countless patients of tuberculosis were cured by his mere touch. These cures were doubtless the result of faith and will-power as there could be nothing miraculous in the touch of the Emperor's hands. Despite this being blind-faith, it is this that animates a man's will-power. Even today, surgeons find it difficult to account for cures in instances where diseased parts of the body are cured by the strength of the power of the will. Through suggestion also patients can be cured as suggestions animate our mental power. If we can activate and strengthen will-power, we have in our hands a secret which can help us to keep young and healthy.

The experiments conducted in various Universities regarding the efficacy of will-power are nothing short of miracles. An article dated 18th January 1976 in Sunday Edition of **'Hindustan'** by *Mr. A. S. Bhatnagar*, titled "*The Miracles of Human Consciousness*" illustrates instances regarding the power of the will. It states :

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"A man called *Urigellar* has enunciated a very original conception regarding Human Consciousness. His claim is that human consciousness and vibrant thought-power can control the material world. To prove this, he held an exhibition in which by his will-power he broke a ring into two pieces. Doubting scientists from Europe invited him to exhibit his power of will. During these exhibitions, in London, he concentrated on a watch in which the time was 4.45. With his power of concentration, he moved the watch backwards till the time in the watch was recording 3.12. At the same time by concentrating on a spoon, kept at a distance, he bent it double. At an exhibition in Munich, by the strength of his will he stopped moving trams and cars. Similarly, *Mrs. Mikhaibobi* of Russia greatly confused scientists when she used her will-power to pull, push and move things lying on a table at a distance from her. As a result, scientists have been forced to admit the unusual strength of will-power and human consciousness. From research work being carried on in the universities the world over, under the name of Parapsychology, it is expected that, as compared to the amazing powers so far discovered from the development of physical sciences, there exists in our consciousness countless divine power. If it becomes possible to acquire and make use of these powers for the benefit of mankind, it will bring about a transformation in human life.

If a patient wills it with all the strength of his heart that he does not suffer from any disease and is absolutely healthy, his faith will cure him. The creation of the external framework of man is determined from within him. If a man suffers from an illness, the illness arises from within. If he is to be cured, he has to seek the help of the power of will, which lies dormant within him.

This power has to be awakened. This principle can also be applied to the exercises described in this book. When practising the exercises of contraction and relaxation of the muscles, one should concentrate with all the will-power at his command on the thought that with the contraction and relaxation of each

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muscle he expels from within his body foreign matter and dead cells that assail his youthfulness.

Hence, the alternate contraction and relexation of the muscles coupled with will-power retards the onset of age and is a sure step towards attainment and maintenance of youthfulness.

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CHAPTER 4

Sunlight, Fresh Air and Youth

The sun is the only source of energy in the world. It is impossible to remain healthy without sunshine. The sun is the irreplaceable and all pervading store-house of the life-giving force. For one to live a long and healthy life, one must spend as much time as possible, in the sunshine. Fresh air is vitalized by the energising rays of the sun. It is, therefore, helpful for longevity to take deep breaths of fresh, clean air, vitalized by the rays of the early morning sun. This kind of breathing is called *Praanaayaam* which we will discuss in one of the following Chapters.

All kinds of life depends on solar energy. The sun is the dynamo from which emanates this life-giving energy. Vegetation and all sorts of life depends on solar energy. Although life cannot survive without the energy obtained from the sun, yet we of modern civilization lead a very artificial life by living away from the sunlight. We live in closed buildings, underground cells and offices with doors and windows shut and work in an artificial light. As a result, we have an army of pale faces, bespectacled and weak eyes, feeble and diseased bodies, men with their natural life-span reduced into half.

The importance of sunlight to a healthy life becomes apparent if we compare the physical development of people living an indoor life with a farmer living an outdoor life in the sunshine.

People who spend their lives in the open air, breathe in air enriched by the life-giving rays of the sun. The sun is the only source of vital energy. There is no other source from which the air we breathe may draw the kind of energy

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obtained from the sun. This energy is the secret of health and longevity. Most people are already aware of this simple fact and claim that it is nothing new. But despite their being theoretically aware of it, they live as though they are ignorant of it. They live in underground cells, in rooms with the doors and windows closed and instead of breathing in fresh air, they breathe in air churned by fans. Under such circumstances it is not possible to hope for a long and healthy life.

Deep breathing has great benefits, especially the prolonged inhalation of pure outdoor air, charged with solar energy. When we take a deep breath of pure air, charged with the vitalizing rays of the sun, it invigorates the body and rejuvinates the physical mechanism. Air which has been exposed to sunlight possesses the life principle to a far greater extent than air of a sunless room. This has been mentioned as "*Praan Shakti*" in the Indian Scriptures. It is best to do exercises mentioned in this book with the rays of the early morning sun playing on one's body. And better still, it should be done in a naked state so that the entire body can benefit from the life giving rays of the sun. As, however, this is not possible and convenient these days, an alternate to this will be that the exercises be done in a room with all the doors, windows and ventilators open, so that maximum advantage can be taken of pure air.

It is preferable to do these exercises in the morning, rather than in the evening. During the activities of the day, dust and smoke fill the atmosphere so that, if one exercises in the evening, the impurities enter the lungs. In the night, the dust and smoke settle down, consequently, if one exercises early in the morning, one has the benefit of pure air reaching the lungs with every deep breath.

While we are on this subject, we would like to make a few useful suggestions for architects. They should plan the structure of a house in such a manner that at the terrace one can have a shed or a room with glass-walls on four sides that both air and sunshine have an easy access to it. It should be protected

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from storm, harsh winds etc. Glass on all sides will protect it from bad weather, but at the same time, it will allow an unhindered supply of the sun's rays. By exercising in a pent house of this sort, one can get the maximum advantage of pure air and solar energy, both of which are necessary for longevity. This kind of a solarium should be built on the terrace of every house instead of that space lying idle. This will be very useful for the health of the inmates of the house. They can use it as a Sanitorium. For people who live in congested places where they cannot benefit from pure air and the life-giving sun's rays, such Solarium will be a blessing.

The *Solarium* will also increase the rental value of a house. It will be better if Municipalities and the house building Corporations of big cities amend their laws so that the building of Solariums becomes a part of the building laws. Although building laws pay attention to various factors regarding health, the use of the terrace for health purposes is generally ignored. If these suggestions are put into practice, then people can have sanitoriums in their houses. Those who cannot afford to go for a holiday to the hills, can derive the benefits of a holiday in the hills right at home. If a few people take initiative in this direction, then the idea will automatically gain currency and Solariums will begin to appear on the terraces of houses.

To those suffering from consumption, that is, T.B., a *Solarium* on the roof will be a great boon towaads their cure. T.B. is one of the most dangerous diseases. More people die of it than of cancer, small pox and typhoid put together. Time and again different kinds of cures become popular for this dreadful disease, but sooner or later, they prove to be of no consequence. However, it has been ultimately realised that medicines alone cannot cure consumption. What is needed to cure consumption is sunlight, fresh air, cleanliness, healthy environment and a healthy controlled diet. The reason why pure air and sunshine is essential as a preventive to consumption is that T.B. germs are latent in most of the cases. As long as they remain inactive *it is all* right, but if due to

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some reason they get active, T.B. manifests itself. If an individual has power of resistance, the germs remain under control, but if the force of resistance ebbs, then the germs get active. Hence, to keep T.B. under control, one must maintain one's power of resistance. To do so, one must observe the basic rules of good health. This is possible by a nourishing diet, and by living in fresh air and sunshine. One should not live closed indoors. Fresh air and sunshine are very vital for the cure of T.B. Sanitoria that are built for T.B. patients are usually built in the hills, on spots where there is plenty of fresh air and sunshine. These factors are more important than medicines for the cure of this nefarious disease.

At first it was believed that T.B. is a hereditary disease, but it has now been realised that it is also an infectious disease. If a person is weak, disabled, has a bad digestion and lives away from fresh air and sunlight, it is very likely that he will suffer from T.B., whether it runs in the family or not. Therefore, the best way to keep away from this disease is the regular use of sunlight and fresh air. Regular exercises to keep the body and the blood circulation active will also help to maintain the force of resistance in the body. The vitality will also be strengthened. Such a body in itself will become the medium of destroying germs.

If all of us realise our social duty, T.B. can be successfully wiped out. At present it is widespread due to our ignorance and carelessness. People are used to spitting indiscriminately on floors and walls. One never knows the germs contained in the sputum, it is therefore our social duty to remain clean and to put a stop to indiscriminate spitting by people. Germs of diseases thrive in dirty, dark places. The rays of the sun and pure air destroy these germs. However, it is incorrect to believe that merely going to a salubrious climate can cure T.B. Even if one goes to such a healthy climate but stays clossd indoors, it will be of no use. Actual cure lies in the life-giving rays of the sun and in pure, fresh air. Therefore, the suggestion of Solarium. Practice of the exercises mentioned in this book, in a Solarium, will improve the health and induce the

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flow of the life principle. It will be a step towards longevity and youthfulness.

As mentioned in a subsequent chapter on vitamins, if the body is to remain youthful, it is necessary for Calcium and Phosphorus to be absorbed by the body. Experts on dietetics and nutrition say that Calcium and Phosphorus can be absorbed in the body only if vitamin D is present. Vitamin D can be obtained from the rays of the sun. Apart from Cod Liver Oil it is present in no other food. Hence, in order to keep the body youthful, Calcium and Phosporus are needed to be absorbed in the body through the vitamin D supplied by the rays of the sun. Consequently, the suggestion of a Solarium in every house is worthy of careful attention.

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CHAPTER 5

Important Hints For Exercises

1. The exercises elucidated in this book can be practised, sitting on the bed, or lying in bed, in the comfort of a quilt, blanket or bed sheet. However, in accordance with one's convenience, they can also be done sitting on or lying down on the floor, on a mat.

2. The exercises should be done on arising early in the morning. The toilet can be performed either before or after the exercises. It is not necessary to pass the stool before exercising, but it is better if one can ease oneself before starting exercises.

3. While performing the exercises, one should count 1, 2, 3 in one's mind. Each exercise can be performed up to a certain count. For instance, 25, 50, 100 as per one's convenience. Counting makes it easier to concentrate on the exercises and also regulates the time spent in the practice of each exercise. One can begin by counting up to 50 and then slowly increasing it to 100. Instead of counting, one can constantly repeat the holy word '*AUM*' in one's mind. The only problem is that this will make it difficult to decide the duration of each exercise.

4. It is important that the exercises be performed in an atmosphere of fresh air. If they are performed indoors, then all the doors and windows should be left open so that clean air can enter the room. It is best to do these exercises in an open courtyard or on the terrace early in the morning to avoid the dust and smoke of the day.

5. While exercising one should breathe deeply. Breathing should be associated with contraction and relaxation of the

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muscles. One should inhale during contraction and exhale during relaxation. For instance, take the exercise in which, after standing straight, with the hands on the hips, one bends forward from the waist to form an angle of 90 degrees with one's legs. When bending forward one should exhale slowly, and while straightening up one should inhale slowly. Exhalation should coincide with bending forward (contraction) and inhalation should coincide with straightening up. Apart from supplying plenty of air to the lungs, such systematic breathing also creates friction in the lungs about which we shall speak later on.

6. One should breathe through the nostrils, not through the mouth.

7. Only after one exercise has been completely, mastered should one proceed to the next.

If one tries to do all the exercises at one time, it will be difficult to master any. After having learnt each exercise in turn, one should start doing all the cxercise alternately.

8. After exercising early in the morning, one should bathe with warm water. If possible, one should take two buckets of water, one hot and one cold, and bathe with mugfuls of hot and cold water alternately. This will tone up the body. However, if one's body cannot take it, one should bathe with just warm water.

9. It is healthy to drink a lot of water. If on awakening early in the morning one drinks water that has been kept overnight in a copper vessel, it will keep away constipation. Drinking water with one whole lemon-juice will improve digestion, keep the liver healthy, clean the intenstines and purify the blood.

10. Food should be chewed well and eaten slowly. There is a famous saying that solid foods should be drunk, while milk and other liquids should be chewed. This means that solid food should be chewed well, so that the saliva in the mouth mixes

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with it properly. On the other hand, it implies, that milk and other liquids should not be allowed in haste. They should be drunk slowly so that saliva can mix with them too. As the saliva is one of the digestive juices, food that is well mixed with saliva is easier to digest. Food that is eaten in a hurry spoils the stomach and the intestines by unnecessarily increasing their work-load. People who complain of stomach trouble have generally been rapid eaters. People who read or talk while eating also ruin their digestive system.

11. One should not delay the passing of stool or urine.

12. One should maintain internal and external cleanliness. Internal cleanliness is maintained by keeping the intestines clean. External cleanliness is maintained by keeping the skin clean. Chapters in this book on the skin and the intestines discuss these points further.

If after reading these chapters, one follows the instructions given, it will mean taking a step towards a longer life.

13. Keep outdoors and remain in the sun, as much as possible. The rays of the sun impart an abundance of life-giving energy.

14. The order in which the exercises have been explained in this book does not imply any hard and fast rule. Every individual should make his own order of exercises according to convenience. If he wishes he can also add a few of his own or drop a few of these. The main principle of these exercises is, contraction and relaxation, friction and massage. Any exercise that caters to these principles helps in maintaining youth.

The order of exercises followed by the author is as follows :

First, he starts frictioning his head and face with a plastic scrubber. Then he massages his face muscles with the palms of his hand by thinly applying boro-glycerine so that there may not be scratches on the face. Then, he does all the exercises of the body from head to foot keeping in view the philosophy of

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contraction and relaxation which will be explained in later chapters. After finishing all the exercises he resorts to the friction of the whole body—legs, stomach, chest, back and hands. This is followed by oil massage (preferably Olive Oil or Mustard Seed Oil) as it soothes the skin which has undergone the operation of friction. After that he bathes in hot water using *Seekaakaai-water* instead of using soap. *Sheekaakaai* smoothens the skin and gives you a sense of freshness. Finally, he does *Praanaayaam* in the openness of his terrace. The whole operation takes more than two hours and a half after which he feels light as a bird.

Every one can follow this programme with modifications to suit his convenience and enjoy the youthfulness of life.

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CHAPTER 6

Exercising in Bed

As mentioned previously, contraction and relaxation of the muscles through exercises is the only way by which the elasticity of the body can be maintained. It is also the secret of good health. Through the process of contraction and relaxation, particles of mineral substances and uric acid, settled in the muscles, arteries, veins and joints, are released and expelled. Consequently, the stiffness in the body is taken off and youthfulness returns. The muscles of the body are kept active through exercises, they develop, get strengthened and become nimble. If, on the other hand, the muscles of the limbs and organs are neglected, they will become flabby. It must be remembered that, in order to achieve and maintain youth, strength and briskness, the limbs and muscles of the body must be kept active. No doubt, a nourishing diet and assimilation of food are important factors, but, if exercises are not a part of one's daily routine, it is futile to expect to achieve and maintain the conditions of youth. The exercises described in this book affect mainly the joints and the glandular and circulatory systems. In order to understand as to how these exercises help in maintaining the conditions of youth, it is necessary to read the foregoing chapters of this book describing the contraction and relaxation of the various limbs of the body ; these exercises expel sedimentary deposits within them, by causing friction and massage thus making them active. If these sedimentary deposits, which are naturally formed in our body are allowed to accumulate the human machine will rust, just as any other machinery that is kept idle will rust. Consequently, the individual will lose his health and usefulness, and the signs of old age will manifest themselves.

Only by regular and constant activity of the limbs and muscles of the body, can the sediments which impede the flow of

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blood be expelled. These sediments are the cause of old age, therefore, when they are removed, the body will regain its elasticity. By regularly following the exercises mentioned in this book, the body will get invigorated and a bubbling health will be the acquisition to advantage. This does not mean that old age will give place to youth, which is impossible ; it only means that this method of exercises will bring about a revolutionary change in mind and body which will be apparent to one and all. It will surprise every one and bring satisfaction to the individual. Apart from this, it will not let the body to disintegrate. It will remove the dregs from the circulatory system and will be conducive to the general well-being of the individual. These exercises are a more practical way af maintaining youth than medicines.

Some people think that in order to benefit from exercises, one has to practice in a gymnasium or they believe that it is necessary to embark upon a programme of hard exercises. Others go out in search of a teacher who can give them lessons in physical development. This is true up to a certain extent, but the process of physical development described in this book does not require a gymnasium nor a programme of hard exercises. The exercises mentioned here can be practised even when lying in bed. They are also very easy, so that one does not require a teacher. Each exercise has been formulated keeping in view the structure of the muscles. Each exercise has to be done slowly, therefore, it is possible to do them while lying in bed or while sitting on the bed. These exercises combined with will-power and auto-suggestions, do not increase the pulse rate and put no kind of strain on the heart. The fact that the heart is not strained in any way is a speciality of this method of exercises.

By exercising in a gymansium, the pulse rate is increased. As a result the heart undergoes strain which a person in old age should avoid. Besides, if difficult exercises that can be tolerated by the heart in childhood are continued at an advanced age, they can cause harm. No doubt, running for miles, doing push-ups, lifting heavy weights and other exercises

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practised in a gymnasium are very helpful in the physical development of the body, and in keeping the body active, but it is possible, however, to overdo these exercises. A practice of the exercises mentioned in this book will contribute to the physical development of the body and the body will derive greater benefit from them in a shorter period.

One should not, in one's initial enthusiasm take up difficult exercises. This will only lead to bodyache the next day and foster a dislike for exercises, possibly making one give them up altogether. Also, one should not take up a number of exercises at a time. For instance, instead of taking up 40 to 50 exercises at a time, it is better to take up 10 to 20 and repeat them 10 times. In this way, if all the muscles of the body are exercised, the body will become flexible. By activating the muscles, fat that has settled in them will also be reduced, the body will become proportionate and supple.

The exercises in this book are meant especially for people who are at the threshold of old age and for people who spend most of the time at desk-work. They are meant for people who have neither time nor interest for exercises, but at the same time, they have a desire to possess vigorous health. To derive the maximum benefit from these exercises, it is best to learn one exercise at a time. Gradually, as one becomes proficient in one exercise, one should switch on to the next. In this way maximum benefit can be acheived from these exercises.

There is a great difference between the exercises mentioned here, and the exercises practised in gymnasiums. By exercising in a gymnasium, one is likely to concentrate on one part of the body and neglect the others. For instance, if one develops an interest in parallel bars at the gymnasium, it is likely that one will exercise and develope the muscles of one's arms and neglect the muscles of the legs. Thus, while some parts of the body will develop, the others will remain unexercised. Consequently, the development of the body will be unequal and incomplete. Just as a machine with a defective balance will not work, so a body that has been unequally developed,

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will lose part of its efficiency, as the underdeveloped parts will not be as efficient as the developed ones. These exereises aim at activating every part of the body in order to bring about a balanced development.

The exercises in this chapter are referred to, as exercises to be done in bed, as they are meant to be performed early in the morning, while one is lazing in bed. They require about half an hour to 45 minutes. Although the time required is what people commonly object to, but half an hour a day, is no great sacrifice, when you are to get health and are able to put off the advance of age, in return. These days people usually give priority to making money, rather than to health. However, it is worth contemplating whether it is better to spend all one's time in making money and then to spend all that money in attaining health, or it is better to make a little less money, but at the same time to maintain one's health and never have to spend for it ?

Man takes part in the rat race of life, in order to achieve prosperity. But there is no sense in concentrating so much on money that one may lose on'es health in the bargain. For, one thing is certain that we cannot maintain youth by making or spending money, nor by taking medicines. Therefore, people who eomplain that they do not have time for exercises are sowing the seeds of their ruin.

The exercises explained in this book aim at maintaining the flexibility of the body through the principle of the contraction and relaxation of the various parts, muscles and joints of the body. The time spent on these exercises should be considered an investment. They make an individual alert and infuse in him enthusiasm. The ideal time for practising these exercises is at dawn, so that one may take full advantage of the early morning rays of the sun. Apart from the sun's rays, air should also have a free flow in the room where the exercises are being performed. These exercises bring the bloom of youth in the body and ward off the premature old age. They also remedy ailments like a lax stomach, a weak heart, a bad taste in the

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mouth, a coated tongue etc. They impart the wealth of good health and youthfulness.

As mentioned earlier, these exercises can be performed in bed, or on a mat on the floor. In winter, they can be performed, while one is cosily wrapped up in a blanket or quilt. Two basic principles govern these exercises, namely, they should be learnt one at a time and, one should start the next exercise only after perfecting the first. As each part of the body has a different exercise, it is important to learn one exercise at a time. If more than one exercise is attempted at a time, one will not gain proficiency in any exercise. It is therefore important to perfect one exercise before proceeding to the next.

Exercising in a hurry will produce an increased pulse rate, as a result of which, the heart will be necessarily strained. A young person may be able to tolerate such an excess, but not so an older person for whom this book is written. An ageing body requires to do these exercises gradually, with stability and patience. Exercises practised thus will activate the circulation of the blood, which, in turn, will increase the agility of the joints.

It is usual for a person to get unduly excited about a new set of exercises and to try and do them in a hurry. As a result, they do more harm than good, for these exercises practised in a hurry, increase the pulse rate and burden the heart. The outcome is, when they see no appreciable result in a few days, they get discouraged and give them up. They do not realise that learning these exercises is like learning how to type, or like learning the harmonium, that is, learning one step at a time, until efficiency is attained and no doubt remains. If these exercises are learnt in the right manner, you will be surprised how quickely your health begins to improve.

For people approaching old age, and for people who wish to regain the elasticity of youth in their old age, the exercises mentioned in this book are self-sufficient and do not need to be supplemented by any other exercises.

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Experimentation with other exercises has revealed that they require the use of appliances and are costly. There are other kinds of exercises in current use for the physical development of the body, but are harsh and require immense exertion. They tire the body. Hence, they are suitable only to young people, as they can be tolerated only by a young body. The exercises in this book are easy exercises to be practised in an easy manner in order to bring about youthful feelings. Haste does not pay in any sphere in the long run. Take for instance, people taking part in a 200 to 250 yards race. Before they begin, every muscle in their body is tightened ; they stand tense with all their weight on their toes ; there heart-beats start racing ; their eyes are fixed forward with tension as to whether they will win or lose. No doubt they draw the cheers of the crowds, but by the time they reach the last stages of life, they are a wreck.

Exercises practised gradually, with ease, can be carried on right up to the end. For an older person, to trot is better than to run, as trotting does not tax the heart so much. Some people feel that to walk is the best. However, this is not so. Walking exercises the body only below the waist, it leaves a major part of the body unexercised. One should remember, slow and steady wins the race.

We do understand that much of what we say in all these chapters is more or less a repetition of one and the same idea in different forms, but this form of repetition is intentionally done so that the idea may so deeply go home that there may remain no doubt or confusion in the reader's mind.

If one were to wish to be short, one would use only 3 words : Do massage of muscles, Friction of the body and Exercise of the joints. But that is not enough. One has to dialate, elucidate, expound and explain ; repeat and repeat so that it may become part of one's being. Then only one puts it into practice, not otherwise.

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CHAPTER 7

Praanaayaam (Deep Breathing) And Youth

The *Upanishads* have described five sheaths (*Koshas*—कोश) that make up our body : namely, the food sheath, (अन्नमय कोश), the vital-breath sheath (प्राणमय कोश), the mental sheath (मनोमय कोश), the enlightenment sheath (विज्ञानमय कोश) and the sheath of bliss (आनन्दमय कोश).

The physical body is made up of the food sheath. The principal elements that the body is made up of are : Eearth, Water, Fire, Air and Ether. These are inert elements. To these, is added, breath, vital-air or life-energy called "*Praan*" (प्राण) as the sixth element. The convergence of '*Praan*' with the other 5 elements brings about Consciousness ; it brings life to the body. When the "*Praan*" leaves the body, its result is death. The *Upanishads* consider "*Praan*" to be an element though subtle, apart from the other elements, though gross —like Earth, Water, Fire, and Air. "*Praan*" is subtly present in every atom of creation. It may be said that when solar energy impregnates pure air, it becomes a life giving force which is referred to in the *Upanishads* as "*Praan*". Hence, "*Praan*" is not merely air, it is air that is pregnant with the vital solar energy. It is synonymous with life.

1. PRAANAAYAAM

The first manifestation of life in a new-born baby is a deep breath. The first breath may be considered to be *Praan* for without it, the baby would be dead. It is without any training or help that the body inhales its first breath, retains it for a while in its lungs and then exhales it. Hence, with the process of breathing life commences. When a life-span is completed, it is the termination of the process of breathing that

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brings about the end. As long as a person is alive, be it 60, 70 or 80 years, breathing is continuous.

Man can survive without food for approximately one month, he can survive without water for a lesser period, but without air, man cannot survive for more than a few minutes. It is also impossible for man to maintain good health without breathing fresh and clean air. Air enriched by oxygen and the life giving rays of the sun is particularly healthy to breathe, as the rays of the sun and the abounding source of the life giving energy is stored in solar rays. Hence, when we breathe in the sunshine, our body receives the life giving solar energy through the lungs.

It is invigorating to take deep breaths several times during the day. It is best, when taking deep breaths, to exhale as slowly as one has inhaled. To take deep breaths on awakening after a night's rest is also healthy. Because of the importance of breath to man, and that of air to breath, it is necessary to keep the doors, windows and ventilators of a building open. Particular attention must be paid to this when one is asleep in the night. While going to sleep one should see that fresh air is not blocked out. If one is sleeping in a closed room one may suffer from dizziness or suffocation.

It is not unusual to hear of wrestlers who indulge in hard physical exercises, suffering at a much younger age, of tuberculosis, pneumonia or other diseases of the lungs. It is often explained that this is so because they relapse into a life of relaxation after a life of hard labour as a result of which they become weak. This may be right up to a point, but it is not the answer to the early death of physically well formed individuals who have led a disciplined life and do not live a life of indulgence. The actual reason is that the method of exercise followed by them results in an imbalanced development of the body. While the muscles and sinews are developed to the fullest, the exercises of the lungs are neglected, consequently, the lungs remain under-developed. In comparison to their external body their lungs become weak, As a result, any kind

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of unusual strain to their otherwise strong body but weak lungs, can prove fatal. A chain is never stronger than its weakest link. If one link in a chain is weak, despite the fact that the rest are strong, that one weak link will affect the entire chain. The strength of the chain will depend on that one weak link. In the same way, a wrestler, with strong sinews and weak lungs, is weak inspite of being strong. It is, therefore, very essential to strengthen the lungs by breathing exercises called *Praanayaam* (प्राणायाम).

In order to remain healthy, one should concentrate on one's proportionate development. If *Praanaayaam* exercises mentioned below are practised regularly one will not suffer from any disease of the lungs and one of the basic requirements of long life will be fulfilled.

As mentioned earlier, the cause of old age is the accretion of foreign matter in the arteries, veins, muscles, intestines, and joints. Just as the washerman removes the dirt from the clothes by beating them, or the housewife cleans utensils by scraping them, in the same manner, one can remove the deposits that have collected in our system by the process of contraction and relexation. The physical exercises that embody this process will be described later. For the present we will concentrate on *Praanaayaam*, which is one of the most important exercises that purify the body of its foreign matter.

The air we breathe does not reach every nook and corner of the lungs. Only one-sixth part of the lungs is ventilated by the air we ordinarily breathe in. Only the upper portion of the lungs receive the benefits of the air enriched by *Praan*, while the lower portion remains unaffected. The primary aim of *Praanaayaam* is to ensure that the entire portion of the lungs is filled with *Praan*-enriched air. The process of contraction and relaxation of the lungs consists of the inhaling and exhaling of air. This process strengthens the lungs and the heart.

2. POORAK, KUMBHAK, RECHAK

Rishis who discovered the system of *Praanaayaam* explain that there are three steps in *Praanaayaam*. Inhaling air into the

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lungs with all one's strenght is called "*Poorak*" (पूरक)—filling in ; Holding air in the lungs is called "*Kumbhak*" (कुम्भक)—withholding and finally, exhaling the air is called "*Rechak*" (रेचक)—throwing out. The process prescribed is that if one performs *Poorak* for 10 seconds, then *Kumbhak* should be performed for 40 seconds, and *Rechak* for 20 seconds—1, 4, 2 is the ratio. However, there is no hard and fast rule. The basic principle is that there should be a plentiful flow of air into the lungs. First, the lungs should be filled to capacity. Then, the air should be retained in the lungs for a tolerable period of time. It should not be retained beyond one's capacity. After this, the lungs should be completely emptied, or emptied as far as possible. It is wrong to believe that to hold the breath for a pretty long time is beneficial. The holding of breath should cause no strain, and it should be held with ease. While holding the breath one should press the lungs downwards towards the diaphragm, (the muscular partition wall between thorax and abdomen) so that through *Praanaayaam* all the parts of the abdomen also get activated.

According to anatomy, the front portion of the human body is divided into three main parts—the thorax, the abdomen and the pelvis. The thorax, which is situated at the chest contains the lungs and the heart. The abdomen contains the stomach, intestines, liver etc. Colloquially, the abdominal region is often referred to as the stomach (पेट). The pelvic area has the bladder and the anus. The thorax and the abdomen are divided by a partition wall called the diaphragm (मध्य-पट). While practising *Praanaayaam*, when the lungs get filled with air after inhalation, they expand downwards towards the diaphragm and apply pressure on it. This activates the different portions in the abdomen. While practising *Praanaayaam* we should consciouly try to press the lungs filled with air downwards on diaphragm so that the abdominal organs also may be activated.

3. BHASTRAA PRAANAAYAAM

For years, the author gets up every day early in the morning and after performing the various exercises detailed in this

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book gives a finishing touch to them by the performance of *Praanaayaam*. The method of practising *Praanaayaam* is as follows :

At first he practices *Bhastraa Praanaayaam*. '*Bhastraa*' (भस्त्रा) means the bellows. Just as the bellows are blown so that the outside-air may come in and inside-air may be blown out with force, in the same manner in *Bhastraa Praanaayaam* pure air is inhaled and impure air is exhaled with force through nostrils.

At first, by blocking one of the two nostrils with the help of the thumb and the middle finger, air is inhaled through the free nostril and exhaled from the same with force. This act is performed from 10 to 15 times. Then similar performance is repeated from the other nostril with the same repetition. This is step No. 1 in *Bhastraa Praanaayaam*.

Then, there is the next step in *Bhastraa*. This time, the same forced inhalation and exhalation is performed alternately —breathe in from right, breathe out from left, breathe in from left, breathe out from right. While breathing in take the breath as deep as possible, while breathing out exhale the breath as much as possible. This inhalation and exhalation may be performed 10 to 15 times or even more. This is step No. 2 in *Bhastraa Praanaayaam*.

After this, we come to the third step in *Bhastraa*. This time, both the nostrils have to work simultaneously. In the previous two, one nostril is blocked, the other remains free. In this third steps, both the nostrils are free, no blocking. Inhalation and exhalation is performed from both the nostrils together, at the same time, with force. This exercise of *Bhastraa Praanaayaam* may also be performed 10 to 15 times or even more. This is step No. 3 in *Bhastraa Praanaayaam*.

The purpose of *Bhastraa Praanaayaam* is to cleanse the entire nasal passage. However, there is no hard and fast rule in the procedural steps mentioned above. One can follow any order of steps, the first can be the last or the last first so far as

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Bhastraa is concerned. The main thing is that all the three steps are necessary,

4. ACTUAL PRAANAAYAAM

The author has been performing these steps in the order mentioned. After performing *Bhastraa Praanaayaam*, the author begins his practice of the actual *Praanaayaam* as *Bhastraa* only prepares one for the actual *Praanaayaam*.

To begin with, he performs the '*Poorak*' (पूरक)—(filling in) process of *Praanaayaam*, that is, he inhales with force from his left nostril countnig at the same time 1, 2, 3, upto 10. Then follows the '*Kumbhak*' (कुम्भक—holding in) process of *Praanaayaam*. It consists of holding the breath or *Praan* (प्राण—breath) within the lungs. While the author holds his breath, he counts slowly from 1 to 40. That is, only up to the time he can do so with ease. He makes no effort to force himself to hold his breath longer than is comfortable. While holding his breath, he tries to press his air-filled lungs downwards towards the diaphragm, the partition-wall between thorax and the abdomen. By doing so, the various parts of the abdomen, namely, stomach, liver, intestines, spleen, pancreas etc. experience the pressure and are consequently exercised. At times, for experiment the author has found that the maximum period of time he can hold his breath is one minute and 40 seconds. But that is of no importance in *Praanaayaam*. After *Kumbhak* follows the process of *Rechak* (रेचक—breathing out), that is, exhalation. While exhaling, the author counts from 1 to 20 so that the ratio of 1:4:2 is maintained in the entire *Praanaayaam* process. However, while exhaling, it is often experienced that the exhalation is complete before the count of 20, as exhalation takes lesser time. After the cycle of *Poorak*, *Kumbhak* and *Rechak* is complete which began from the left nostril, the author counts it as *Praanaayaam* No. 1. He follows it by four to five free deep breaths and then rests a while. After that, beginning from the right nostril, he again repeats the process of *Poorak*, *Kumbhak* and *Rechak*, as performed earlier by the left nostril. This he counts as *Praanaayaam* No. 2. Performing one *Praa-*

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naayaam, with all the three processes of *Poorak*, *Kumbhak* and *Rechak* takes one minute and 10 seconds. In this way the author performs 25 *Praanaayaams* daily in the morning. This takes up about half an hour. After performing half an hour of *Praanaayaam* physically he feels full of activity and mentally there is a feeling of contentment and youthfulness. He lacks this feeling of physical and mental fitness on days that he misses this programme of *Praanaayaam*.

5. BHRAAMARI PRAANAAYAAM

We have mentioned about *Bhastraa*, *Poorak*, *Kumbhak and Rechak* as the constituent parts of *Praanaayaam*. After performing this spiritio-physical exercise one may perform *Bhraamari Praanaayaam* (भ्रामरी प्राणायाम). *Bhraamari* means the bee. This practice is called *Bhramari* as while performing this an internal sound is made resembling the sound of a bee. The procedure is as follows :

Close your eyes and block your ears tightly with palms. Keep the teeth slightly separated but the mouth closed. Breathe slowly and deeply in, that is *Poorak* and *Kumbhak*. Then, holding the breath for half a minute, breathe out with a humming sound. The humming should be continuous and should be done for the duration of exhalation, that is, *Rechak*. Continue this process, emitting a humming sound with every *Rechak*.

This sound strikes in the brain and activates the brain-cells. One cannot perform a brain-exercise, but *Bhraamari* is a *Praanaayaam* which activates the brain-cells with the humming sound like that of the bee.

Other *Praanaayaams* are for different parts of the body, but *Bhraamari* is for the brain as we can reach brain-cells only by the sound. This can be done for 5 minutes after the main *Praanaayaam* is finished.

6. PRAANAAYAAM—A SPIRITUO-PHYSICAL PROCESS

Praanaayaam (प्राणायाम) is a spirituo-physical process developed by the *Yogis* of India. Apparently, it is physical as it

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deals with the regulation of breath. But, though physical, it is also spiritual. Its spiritual aspect manifests itself when in *Praanaayaam* we reach its second stage, that is, the *Kumbhak*-(कुम्भक) stage. We have already mentioned that in *Kumbhak*-stage we count 1, 2, 3 etc. up to 40 so that we retain the breath inside for about half a minute. This is just in the beginning of *Praanaayaam*. Actually, in *Kumbhak*, instead of counting figures we should recite some *Mantra* (मंत्र) for concentration of the mind. One can recite *Gaayatri* (गायत्री मंत्र) or *Maha Mrityunjaya Mantra* (महा-मृत्युञ्जय मंत्र) or any monosyllabic spiritual word like '*Soham*' (सोहम्—I am that), *Tatvamasi* (तत्वमसि—Thou art that—the Reality), or *Aum* (ओ३म्—the name of God) etc. This helps in concentration on one point. *Poorak* means filling in of the lungs with breath ; *Kumbhak* means holding on the breath. *Kumbhak* is performed with a conscious effort and concentration on a cryptic *Mantra*, and so it becomes easier for the mind not to stray away and to remain fixed on one point. In *Kumbhak* two factors are operating—one is the physical, the second is the spiritual. Holding breath with conscious effort is physical, recitation of one spiritual monosyllabic word —*Mantra*—is spiritual. When both co-relate, the concentration (ध्यान) becomes automatic and easier. *Praanaayaam*, therefore, is a *Yogic* practice for mental concentration as well as for physical regeneration. How it physically regenerates will be explained later on, but here let me add that I for one recite *Maha Mritunjay Mantra* during *Kumbhak*. That *Mantra* is the following.

ओ३म्, त्रयम्बकं यजामहे सुगन्धिं पुष्टिवर्धनम् ।
ऊर्वारूकमिव बन्धनात् मृत्योर्मुक्षीय मामृतात् ॥

It means : "Worship God who is the mother of these *Lokas*—the Earth, the Heaven and the Space between, that is, the whole world. He is fragrant and strengthening like the melon—(खरबूजा). And, let the Almighty release me from bondage of death as the melon, when ripe, is automatically released from the bondage of the creeper to which it is attached. May my death be as pleasant as the melon, when ripe, drops off from the creeper painlessly as a result of ripeness. Though I may be released

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from bondage of the body, I may not be released from the binding attachment with immortality".

Repetition of *Maha Mrityunjaya Mantra* is the major part of my morning prayer—*Sandhyaa* (सन्ध्या). At this time I perform *Praanaayaam* for half an hour which means 30 minutes. These 30 minutes are divided into 6 units of 5 minutes. In each unit of 5 minutes I perform 5 *Praanaayaams*. In each *Praanaayaam* I recite the *Mantra* 10 times or near-about. In this manner, I perform 6 units of *Praanaayaam*, each unit of 5 minutes and each minute of 10 times *Mantra*. Thus, totally within this half an hour (30 minutes) I recite the *Mantra* near about 300 time each day along with 30 *Praanaayaams*. As *Praanaayaam* is physical and the recitation of the *Mantra* is spiritual, hence this process in *Yogic* terminology can be called spirituo-physical or physico-spiritual. This process if rightly and regularly performed each day, early in the morning, makes one feel youthful and is helpful in prolongation of healthy life.

7. FUNCTION OF THE HEART IN PRAANAAYAAM

To understand why after *Praanaayaam* one experiences youthfulness, one has to first understand the process of the circulation of the blood in the body, the process by which Carbon Dioxide is removed to be replaced by Oxygen in the blood. It is by the process of oxygenisation of the blood, that life, vigour and vim is imparted to the system. Let us examine what is this process.

The heart, which is the storehouse of blood in the body and plays an important role in the circulation of the blood is divided into four chambers. There are two chambers above and two chambers below. The two chambers above are divided into the right chamber and the left chamber. In the same way, the two chambers below are also divided into the right chamber and the left chamber. The upper chambers are called *auricles* and the lower chambers are called *ventricles*. While the *auricles receive* blood from the various parts of the body,

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the *ventricles carry the blood for distribution* to the various parts of the body.

Impure blood is received by the right auricle from the various parts of the body by two big veins called the *Superior Vena Cava* and the *Inferior Vena Cava.* The superior vena cava brings impure blood from the upper parts of the body, namely, the head, the shoulders and so on. The inferior vena cava brings impure blood from the lower parts of the body, namely, the stomach, the liver, the intestines etc.

On receiving impure blood from the various parts of the body, the right auricle, proceeds to pass on the blood to the right ventricle, that is, the lower right chamber, situated directly below it. From the right ventricle, the blood is sent to the lungs in order to be purified.

The lungs are the workshop where impure blood is made pure. Exactly how this is done, we will discuss later. Blood purified by the lungs is collected in the left auricle, or the upper left chamber of the heart.

The left auricle then transfers the pure blood it has received from the lungs, to the left ventricle, that is, the lower chamber of the heart situated directly below it. The left ventricle then distributes the purified life giving oxygenated blood to the various parts of the body, through a big artery connected to it.

The process, of the collection of impure blood in the heart, its purification by the lungs, and its return to the heart in order to be distributed to the various parts of the body imparting life to every cell is called the *Circulation of the Blood.*

The circulation of blood in the body is carried out by a network of pipelines called the arteries. This network runs through the entire body. An understanding of this network will throw considerable light on the exercises that are to be further described in this book.

When the heart sends impure blood to the lungs, the lungs

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purify the blood by giving out the carbon dioxide contained in it in exchange for oxygen received from the fresh air we breathe. Then, this purified blood is sent to the heart to be distributed to all parts of the body. The blood leaves the heart through one big artery called the '*Aorta*'. The aorta as it proceeds further, branches off into a network of pipelines which are called '*Arteries*'. The arteries divide and sub-divide into further branches until they become as thin and minute as hair. At this stage they are called '*Capillaries*' and the blood within them exhausts its supply of oxygen into the tissues. Now, the reverse process starts and the capillaries start collecting the carbon dioxide from the cells of the body and performing this function they re-emerge to the size of the arteries and come to be called '*Veins*' for they now carry impure blood. Hence, the capillary is the end of the artery and the beginning of the vein. All veins in the body make their way towards the heart carrying impure blood, in order to have it purified by the lungs. The blood in the artery contains oxygen, while the blood in the veins contains carbon dioxide except the pulmonary (pertaining to the lungs) veins of both the lungs which carry oxygenated blood to the heart. While the blood in the artery moves with a rhythm because of the rhythmic movement of the heart which projects it, the blood in the vein flows evenly. Hence, when an artery is cut, the blood oozes out in spurts ; but when a vein is cut, the blood oozes out in an even stream. The blood of the arteries is red, while that of the veins is bluish.

It is important to understand the difference between an artery, a vein and capillaries. The artery carries pure blood from the heart to distribute it to the various parts of the body ; the vein carries impure blood to the heart, in order to have it purified by the lungs. The artery carrying pure blood gets subdivided minutely into capillaries. The blood in the capillaries gives its oxygen to the cells, tissues and muscles and takes back carbon dioxide from the various parts in the body. Its work done, the capillaries again emerge into a single tube as before, but now the blood they carry contains carbon dioxide

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and is therefore impure. Now they are called veins. All the veins in the body join with either of the two main veins called the *Superior Vena Cava* and the *Inferior Vena Cava* about which we have mentioned before. The Superior Vena Cava carries impure blood from the upper parts of the body, that is, from parts above the chest, while the Inferior Vena Cava carries blood from the lower parts of the body, namely, the parts below the chest.

The capillaries are spread all over the body like the strands of a spider's web. They carry out the important work of imparting oxygen to the various parts of the body, and collecting the waste in the form of carbon dioxide from the various parts of the body.

These details regarding the arteries, veins and capillaries have been explained here to enable the reader to realise the importance of frictional exercises detailed in this book. As these structures are spread all over the body covering every muscle and tissue, hence by frictional exercises of contraction and relaxation we try to remove the deposits in them which stand in the way of their elasticity and make the body rigid and old.

8. FUNCTION OF THE LUNGS IN PRAANAAYAAM

In order to understand how the lungs purify the blood, we must first understand the structure or composition of the lungs.

The lungs are organs with a spongy appearance. Each lung is a somewhat conical organ, having an apex which extends into the neck and a base which rests upon the diaphragm. Superficially the right lung is cleft by horizontal and oblique fissures into three lobes and the left lung into two lobes. Together, the lungs occupy more than three-fourths of the chest area. In the lungs are the alveoli or the air cells. Each alveolus is 1/250th to 3/250th inches in diameter and consists essentially of a bundle of capillaries (minute blood

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vessels) suspended in air. Most of its surface is covered by these vessels, spread out in order to provide a diffusing surface. When the incoming pure air reaches the alveoli an exchange of oxygen and carbon dioxide between the air and blood, contained in the alveoli takes place. Through the diffusing surface, the carbon dioxide in the blood is exchanged for the oxygen in the air. This is called the process of *Osmosis*. Thus through the process of expiration the lungs get rid of carbon dioxide and send the oxygen-rich blood to the heart's left auricle. From there it goes to the left ventricle to be distributed to all parts of the body through arteries.

If the lungs do not purify the blood with the help of the air we breathe, impure blood, that is, blood containing carbon dioxide, will circulate in the body and cause death. The lungs are a God-given machinery to our body. Through the process of inspiration and expiration, they impart vital, life giving oxygen to our blood, and get rid of carbon dioxide which is dangerous to life. As *Praanaayaam* aids the lungs in this process, its importance is self-evident. People go to the hill stations or the sea-side because at these places, the air contains an abundence of oxygen, which when taken in through the air we breathe gives life to the blood. Apart from making maximum use of the oxygen in the air we breathe, *Praanaayaam* also aids in the process of contraction and relaxation. When the breath is taken in and held, the lungs expand and put pressure on the diaphragm, which in turn puts pressure on the abdominal organs. This is contraction. When the breath is released, there is relaxation. It also further activates the circulation of the blood. As a result, it helps in the removal of foreign matter from the arteries and veins and allows a free flow of blood. A free blood-flow keeps all parts of the body alive and active. No weakness or tiredness is felt. On the other hand, one experiences a sense of high spirits and enthusiasm, regardless of one's age. Hence, the importance of *Praanaayaam*.

The main object of *Praanaayaam* is to activate vitality by imparting oxygen into the body. Oxygen rejuvinates the body

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by entering into the blood. Some scientific experiments are being conducted in this connection. Some time back there was a mention in the **Times of India** dated 23 march 1976 regarding experiments being conducted on Gerontology by *Dr. Madhushudan Kanungo* of Banaraes Hindu University, which throw light on the importance of oxygen so far as it is conducive to activating the life-force. *Dr. Kanuango's* experiments are being conducted on mice. He poses the question as to why the span of life of the mice is three years, whereas man can live even beyond the age of 80. If we can find out the cause of old age, then the span of life of man can also be extended. He conducted experiments on enzymes. Enzymes are substances which do not themselves change but bring about changes in the body. He has discovered that one of the enzymes, which is essential for the activity of an animal when it cannot get enough oxygen decreases in the heart, the brain and muscles in old age. This enzyme he has named "Ache". If the body does not get enough oxygen, then this enzyme ceases to impart vitality to the heart, the brain, the muscles of the body. In the absence of oxygen this enzyme cannot function and consequently these organs degenerate. The degeneration of these organs due to lack of oxygen brings about old age.

These experiments of *Dr. Kanungo* prove that *as Praanaayaam* helps in the absorption of oxygen into the blood-vessels it must enable this enzyme to impart vitality to the system.

9. HOMOEOPATHIC AND OTHER REMEDIES FOR HEART.

Though the natural method to keep young and retard old age is to maintain the elasticity of the muscles, tissues, arteries, veins, capillaries and joints by frictional exercises and have an abundance of oyxgen through *Praanaayaam*, still we can make use of some Homoeopathic remedies which help the system in that direction. We are giving hereunder some of the suggested remedies :

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(a) **Thiosinamine 2X** : *Willam Boericke* in his **Materia Medica** says that *Dr. A.S. Hard* has suggested that *Thiosinamine* which is a chemical derived from oil of Mustard seed (सरसों के बीज) is useful in retarding old age. This Homoeopathic remedy is available in power form in 2X or 3X potencies. One can take ½ grain of it twice a day. *Dr. Boericke* says that it is useful in obstinate arterio-sclerotic ailments in doses of half a grain, never more, 3 times a day. See also chapter 2nd.

(b) **Crataegus (Mother Tincture)** : *Boericke* has suggested its use in arterio-sclerosis. It is said to have a solvent power upon crustaceous and calcareous deposits in arteries. Useful in high arterial tension. Ten drops of its mother tincture in two spoonful of water can be taken on empty stomach for 20-25 days.

(c) **Arnica 30, 200 or IM** : It is a muscular tonic and in sore, lame, bruised feelings can be used. Soreness after over-exertion. Condition in the system similar to those resulting from injuries, falls, blows and contutions. Can be used in Mother Tincture 5 to 10 drops in a small quantity of water.

10. REMEDIES FOR BLOOD PRESSURE.

It has been pointed out before that the function of arteries is to supply blood to every nerve, tissue and muscle of the body. These arteries branch off into fine and thin arteries called capillaries. They are as elastic as rubber. The blood being pumped by the heart passes through arteries and ultimately reaches capallaries. When due to various causes, particularly due to deposition of foreign matter in these structures they get contracted, then the heart has to use additional force for pumping, as for want of elasticity the blood pipelines cannot expand as they used to do in early years. This forced working of the heart is called blood pressure. It may be due to foreign accretions in the arteries or due to worries of life.

Some of the Homoeopathic remedies are as under :

(a) **Aurum Met. 30** : This remedy affectsHighBlood Pressure. Useful in orgasm, as if blood were boiling in all pipelines.

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(b) **Aurum Muriaticum Natronatum 3X** : This remedy has a pronounced effect in Blood Pressure due to disturbed function of the nervous mechanism.

(c) **Veratrum Vir 6** : Induces fall of both systolic and diastolic Blood Pressure. Constant, dull, burning pain in the region of the heart. Beating of the pulse throughout body, especially in right thigh. Pulse slow, soft, weak, irregular, intermittent. *Crataegus*, mother tincture, can be used along with this.

(d) **Spartium Scoparium 3X** : Angina pectoris. Irregular action, disturbed rhythm due to gas etc. Hypotension. Has specific action upon the kidneys, enabling them to eliminate and relieve the distress upon the heart.

(e) **Strophanthus Hispidus**, Mother tincture 6X : Acts on the heart, increasing the systole and diminishes the rapidity. May be used with advantage to tone the heart, and run off dropsical accumulations. Useful in rigid arteries of the aged. Restores tone to a brittle tissue, especially of the heart-muscle and valves. In more acute cases, 5 to 10 drops of tincture three times a day.

(f) **Baryta Muir 6X** : (Repeated doses) : Arteriosclerosis of the aged. Useful where there is a high systolic pressure with comparatively low diastolic tension. Also useful in indurated and narrowing of the cardiac orifice with pain. According to *Dr. Blackwood* this is the main remedy for blood pressure of any form but if the pressure is due to the kindney disease or calcification in arteries, then this remedy does not work. It has been found that the remedy works in 6x potency only, not in 3x. If this ailment is due to kindney disease, then *picric acid* 6 has been found useful.

(g) **Glonoin or Belladonna** 30 : If the blood pressure is due to sun-stroke with throbbing in the head we may consider these remedies.

(h) **Viscum Album** : It is said to be a great remedy for high blood pressure. Mother tincture or low potency.

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(I) **An Ayurvedic medicine** : Take one tola (तोला) each of *Sonth* (सोंठ), *Jaayphal* (जायफल) and *Revanchini* (रेवनचीनी) and powder them separately. Then sift them with fine sieve or fine cloth and keep them separately.

Take 2 tolas of the seeds of *Dhaturaa* (धतूरा) and treat them as follows :

Take one kilo of cow's milk. Mix half a cup of water in it. Keep the vessel on smouldering fire. Put the 2 tolas of *Dhaturaa* (धतूरा) seeds in a closely knotted up cloth. Place them in the vessel of milk. Let this knotted cloth with *Dhaturaa* (धतूरा) seeds remain in boiling milk for one hour. Then take out the bundle and place the boiled seeds in the sun to let them dry. After they are dried, powder them fine and mix this powder with the other three powders already prepared.

Now mix honey with this mixture and prepare tablets of the size of a gram. One tablet a day with cow's milk taken for a week will strengthen the heart muscle.

R.P. Sharma, Gopal Nivas. 5th Road, Santa Cruz East, Bombay has had an experience of this medicine and those interested can contact him at the address given. No one should try to use this medicine of his own without consulting an experienced *Vaidya*.

Ginger Root (अदरक की गांठ) : Put a medium-size piece of Ginger root in a tea-cup of water in the night. Drink that water in the morning for a month. It will reduce blood pressure. This prescription was given to *Shri Som nath Marwaha*, Advocate, C-4, Green park Extension, New Delhi, by a friend of his who had tried it with benefit.

NOTE : The pressure of the contraction of the heart muscle is called *systolic*, of the relaxation of the heart muscle is called *Diastolic*. The blood pressure varies according to the age of an individual. The higher side is systolic, the lower side is diastolic. In a normal man the systolic may vary from 150 to 180 and the diastolic may vary from 110 to 90. Systolic, higher

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than 190 and diastolic lower than 80 deserves careful attention either by remedy or control of diet and other measures.

11. CHART FOR NORMAL BLOOD PRESSURE

Age. Year	Systolic range			Diastolic range		
	Min.	Av.	Max.	Min.	Av.	Max.
15—19	105	117	120	73	77	81
20—24	108	120	132	75	79	83
25—29	109	121	133	76	80	84
30—34	110	122	134	77	81	85
35—39	110	123	135	78	82	86
40—44	112	125	137	79	83	87
45—49	115	127	139	80	84	88
50—54	116	129	142	81	85	89
55—59	118	131	144	82	86	90
60—64	121	134	142	83	87	91

NOTE : These figures have been taken from *DOCTOR'S GUIDE* compiled by *C.L. Gupta* and pubilshed by *Keshav & Company*, 221, Rabindra Saranee Calcutta-7 in 1969.

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CHAPTER 8

Friction of the Skin and Youth

Like the clothes we wear,the skin covers the body all through. It is an indispensable part of it. The skin over the limbs which are exposed and subjected to outside pressure is thick or rough. However, the main function of the skin is to protect the limbs it covers.

Skin performs two functions. There are crores of glands beneath the skin, the secretion of which lubricates the body from within. In addition, there are crores of pores in the skin which bring forth or excrete the inner waste in the form of sweat. The body cannot remain healthy unless the skin performs these two functions.

While the function of the glands is secretion, the main function of the pores is excretion. The body becomes sick if these glands stop secretion ; or if these pores stop excretion of the poisons generated within and are not thrown out. The youth of a man lies in keeping these glands and pores active. Their proper functioning keeps the digestive system, intestines and kidneys in proper shape.

It is important to maintain health of the skin to keep all the organs of the body healthy. One can keep off such diseases as itching, boils, eczema and herpes etc. by maintaining the health of the skin. And the method of keeping the skin healthy is to subject one's body to friction followed by a bath.

To understand the process of friction it is necessary to know that broadly speaking the skin has two layers—the cuticle or epidermis or outer layer, and the inner or skin or dermis.

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Generally, it is only the outer layer which is identified as the skin, but in fact it is the inner layer which is real skin. Being only the outer layer there are no bood vessels in the cuticle or epidermis. This is the reason there is no bleeding if it is bruised; nor is there any feeling of pain if it is scratched because it contains no nerves which are the source of feeling. Its main purpose is to protect the dermis or the inner layer.

The microscopic view of the epidermis or the skin reveals that its different layers are so placed that they seem to be covering each other. Actuall y, epidermis is simply a protecting cover and is the outgrowth of dermis which is the real skin. The epidermis keeps shedding off gradually. This process is so slow that it goes unnoticed.

When this epidermis accumulates at one organ because of reduced shedding, it is called dandruff or dead-skin which may occur on the head or in any other part of the body. When it appears on the head its small white scales start shedding in the form of dandruff. And when this dandruff or dead-skin appears on any other part of the body, the skin at that place becomes thick and at times both thick and black.

The real colour and the beauty of the face is determined by the dermis or inner skin and not the epidermis or the outer skin. The latter can produce only temporary changes.

A number of creams and powders available in the market today and used by men and women alike do succeed in bringing a little softness to the face, but it is confined only to the epidermis or the outer skin. They temporarily straighten or fill up the wrinkles and soften the face which again becomes rough and ugly as soon as their layer is washed away with water. These cosmetics, in fact, block the pores of the skin making it difficult to do their primary function of secretion.

While most of the people know that these cosmetics bring about only a temporary glow, their manufacturers advertize that their effect is permanent, falsely representing that

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they are nutritious for the skin, and that they not only strengthen the skin but also nourish the muscles. This claim made by advertizers confuses the common man.

But, as pointed out earlier, broadly speaking, there are two layers of skin—upper and lower or outer and inner. It is the latter and not the former which forms the skin. No permanent effcct can be produced on the upper or outer layer of the skin without toning up its lower layer or inner layer. Cosmetics can affect only the outer skin, not the inner skin, which is the real source of beauty and strength.

Some of the ingredients of the popular brands of creams are lanolin, paraffin, white wax and spermaceti. There could be some substance in the claim that these creams can produce inner change in the skin if it were possible for them to reach the dermis and the muscles and thus contribute to the creation of new living cellular tissues. But these cells cannot be created by applying these cosmetics from outside. All cells of the body are created as a result of the assimilation of the digested food. It is those cells which are responsible for the whole body. These cells are not made by using these cosmetics or medicines on the upper surface of the skin. Cells are produced when good and nutritious food enters the body, and after passing through various processes turns into blood, and its assimilation takes place. Therefore, it is misleading to think that these cosmetics can build the cells of the facial skin and give nourishment to it to enable it to have a glow of beauty.

The ingredients of these cosmetics are non-living things, and for the non-living things like food, for instance, to be able to build cells, it is necessary that they enter the stomach, get digested and pass through all the processes involved in the cell building. What is thrust from outside is washed away with water. And so to think that these creams and other such products are nourishing is only to delude onself.

They do not enter the inner layer of the skin when applied externally ; nor can they feed the muscles or the nerves. The

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upper layer of the skin can, if at all, absorb a part of oil massaged on the body externally; that too if it is of a very rare quality. Still it cannot contribute to the cell-building as this absorption is impossible in case of these cosmetics made of wax and paraffin etc., etc. They cannot be described as nourishing food of the skin.

As pointed out earlier, they can at their best have only temporary but not permanent effect—and that too, on the epidermis and not on the dermis. But the real glow, the shine on the face comes from inside and not from outside the skin.

The main harm produced by these cosmetics is that they obstruct the secretion of the glands beneath the skin and also block its pores. Under these circumstances, the skin cannot remain healthy because the poisonous substances in the body cannot come out in the form of sweat which is necessary for purifying and strengthening the muscles and the nerves.

The secret of keeping the skin healthy and pure lies in friction—and it is necessary to know its correct method.

I. METHOD OF FRICTION OF THE SKIN OF SCALP

To keep the body healthy and free from disease, one should rub each part of it with a brush or a rough towel after taking off all the clothes from the body.

Given below is the way I do the friction of the body with a plastic brush generally available in the market for washing cloth. Such brushes, both soft and hard, are nominally priced. For friction, a soft and not the hard brush is used so that it does not cause bruises or scratches.

Sitting or lying in my bed, I start rubbing my skin in the following order :

Firsh, I begin with friction of the scalp with the spiky brush. It is not necessary to use the hard brush. One can use a soft one, or also a tough towel. Both are equally good and serve the same purpose.

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Much before I started this, my hair used to fall quite often. But now, with this friction which ordinarily should have resulted in fall of more hair, not a single hair falls.

But as in everything else, excess in friction also is bad. It is enough if is is done for 5 to 7 minutes.

After using the brush on the hair of the scalp I massage my hair with pure mustard oil. I follow it up with friction of the scalp again so that it absorbs the oil.

The reason why hair fall is that their roots do not get blood which is their nutrition. These roots start getting blood as friction activates and accelerates its circulation through the capillaries running in the skin covering the scalp.

Scales and gray hair—When roots of the hair start receiving its nutritious food, the fall of the hair stops,dandruff disappears and formation of dandruff and gray hair is checked.

I had not used oil for my hair before and so I could not check their turning grey. But even now there are streaks of black with white hair; in fact there is a mixture of the two. I' m sure I could have succeeded in maintaining their original texture if I had been applying oil and rubbing them earlier as stated here.

2. FRICTION OF THE FACE

After the friction of the scalp, I do friction of the skin of the face with the same brush. In this friction I rub the skin of the forehead, the temples, the nose, the cheeks and the throat—both right and left side—in that order.

In the beginning the spikes of the brush prick. But later as one uses it regularly, the pricking ceases to be felt. And with better circulation of the blood resulting from the friction, the face begins to shine and wrinkles do not form, if formed they disappear. One has to use one's intelligence as to how to handle the massage of the face and the throat.

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Then I apply a little glycerine mixed with boric acid. A teaspoonful of boric powder in an ouncc of glycerine is ideal. The chemist will give you boro-glycerine. This softens the skin rubbed by the spiky brush. In the beginning boric does not get easily dissolved in glycerine, but as it is shaken briskly, it does. Instead of making a mixture oneself, it is better to purchase an ounce of Boro-glycerine from a chemist. Or, one can use plain water by wetting the fingers and palms while rubbing the muscles of the face.

Then I dip my fingers—five each of both the hands—in the lukewarm water and then massage the face. The fingers are dipped in water to facilitate the massage as otherwise the greasiness of the glycerine makes it difficult to use them freely.

Using wet fingers I briskly rub from the centre of the forehead to the temples on the right and the left side simultaneously. I do it for 100 times like all other exercises. Counting of the number of these exercises not only results in greater concentration but also regulates these exercises. This concentration is very essential. The massage of the forehead is followed by the massage of the temples.

In this massage, temples are stroked with a little pressure. This stroking also strengthens the eye-muscles. I also massage the nostrils for 100 times.

And then I rub the areas below the eyes and also below the cheek-bones with my palms. This rubbing can also be done by fingers. It is in these areas that wrinkles begin to appear in old age; and this can be checked if these exercises of the face are started at proper time. The wrinkles can also be removed if they have already appeared. I massage the cheeks with both the palms. With every massage I apply a little water to the cheeks so that rubbing becomes easier. While rubbing the cheeks it is better to puff them up and rotate the inside of the palms over the puffed cheeks. That will strengthen the cheek muscle and no wrinkles will form thereon.

Generally in old age, there is a little protuberance on both sides of the cheeks where the lips meet. It appears to the

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viewers as if there were a small swelling on the corners of the meeting place of lips. These areas should be rubbed with the palms upwards. I rub my cheeks 100 times this way. Likewise, one ean use friction in any part of the face where there is likelihood of the formation of a bag of fat or of wrinkles.

3. FRICTION OF THE NECK

After the massage or friction of the face comes the friction of the neck.

In old age three folds appear on the neck—first towards the left, second towards the right and the third towards the middle. These folds appear as a result of the hanging of the muscles which become loose, thus presenting the shape of an old man. Rub these muscles with the brush, one after the other, and then massage with the fingers in the manner and order given below.

Two of these muscles are below the left and the right cheek-bones, and the third muscle is exactly below the chin. All these three, full of fat, hang downwards resulting in a bag-like hanging ugly shape of the throat. To remody this the following exercises are useful :

(a) **Massage of Chin Muscle** : First, massage the third muscle below the chin. In this massage, with fingers joined, rub it sideways briskly, right and left. Regularly taken, this exercise stops the bag-like hanging of the skin-muscle downwards.

(b) **Massage of Side Muscles** : After the massage of this third muscle below the chin, do the same rubbing of the two side-muscles for removal of the fat of the fold of the two muscles below the cheeks to the right and to the left side of the throat.

For this, place both palms below the chin and move them briskly from the sides of the chin towards the cheeks right upto the temples. This exercise stops the growth of folds and wrinkles.

(c) **Massage of Adam's Apple** : Besides these three muscles, there is an adam's apple where we can see a pipe-line muscle

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which is flanked on each side by sleek muscles. This pipe-line muscle is an indicator of old age. To avert the appearance of this pipe-shape the palms are rubbed side ways with the adam's apple as the centre. This exercise will strengthen both the side muscles of this pipe averting the folds or preventing their further growth or development.

After friction and massage of the three muscles of the neck and rubbing with palms the side muscles of the adam's apple one should take another exercise for the neck which is as follows :

(d) Six Movements of the Neck : Standing erect, move the neck forward and backward, then left and right one hundred times each. This should be followed by moving of the neck forward and backward from both sides of the shoulder separately in a slant position. Then, move the neck in a circle first from the right and then from the left side. These movements of the neck are six in number.

Thus, the neck in six rounds gets 600 movements, including those of circles. These exercises prevent the appearnce of the folds and wrinkles, and if they have already appeared, checks their further growth if started, at the age of 50 to 57. They can even remove the wrinkles and folds and bring back the lost youthfulness and give it an appearnance of youth.

In my own case small wrinkles which had already appeared on my face disappeared with these exercises.

There is no doubt that as one advances in age, sooner or later, wrinkles do appear but the question is whether their appearance can be delayed or removed at an early stage when they are just on the verge of appearance. My experience is that both things are possible. They can be removed by sustained exercise as well as checked in time if one is awake to the disfigurement they cause. In 17th century there was a French lady named *Ninon De Lenclos.* She looked young at the age of 70. When she was 85, she appeared so young that King Louis the xivth declared that her young, briliant and beaming face was a marvel of his kingdom. She died at the age

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of 91. The main cause of the youthfulness of her face was that she daily used to practice those exercises of which mention has been made in this book.

In my daily exercises I practice all the exercises mentioned above.

4. FRICTION OF THE SKIN OF LEGS AND FEET

And now begins the friction of the Legs and Feet.

I thoroughly rub with the plastic brush the nails, the toes, the knees, the feet, the legs and the thighs. First right leg and then the left—this is the order I follow. I keep rubbing them with the brush. First the spikes of the new brush may prick you but as you get accustomed in five or six days, you would even start enjoying this friction because of its peculiar sensation which one gets after scratching the parts. After all, scratching or itching has also its own pleasure ; does'nt it have ? and so also has the friction.

A spot of vein in my left foot used to pain for years. But since I started rubbing my foot as part of my daily routine, this pain has disappeared. It is due to better circulation of the blood in the affected part.

In old age, either the blood does not circulate properly in all parts of the body or its circulation is very feeble. Friction accelerates this blood circulation with the result that all parts of the body start getting their nourishment and the signs of youth manifest themselves.

5. FRICTION OF THE ABDOMEN AND THE CHEST

From rubbing of the feet and the legs, I move towards the abdomen and the chest.

Those people who have hair on their legs, abdomen or the chest, should do this friction so slowly and smoothly that there remains no possibility of uprooting of the hair or the consequent pimples. Those who have no hair on these areas, of course, face no problem.

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Even those who have hair on these areas, a few days of friction would make their hair accustomed to it.

In my case hair of the head have got so much accustomed to the friction that they remain quite intact even when they used to fall before I started it.

In the event of any fear of the fall of hair or their uprooting, rub the spiky brush in the same direction in which the hair are. This rubbing will accelerate the circulation of blood in the capillaries of the skin of these two organs and strengthen their muscles.

In the chest are the lungs and the heart. And the abdomen contains liver, intestines, spleen and pancreas.

If the muscles of the chest remain strong one does not fall a prey to cough, cold and pneumonia. Likewise, it is important that the muscles of the abdomen remain strong. If these muscles become loose the weight of the limbs within will make the abdomen hang downwards making a pouch. It is an odious sign of old age. Not only this, the weakening of these muscles and hanging of the intestines in the abdomen may also lead to hernia in case of old persons.

What is hernia ? When a child is born, his testes are not in the scrotum. They lie in the inner lining of the abdomen, but as the child grows older, they gradually descend into the scortum through two holes beneath the abdominal wall. When any part of the intestine escapes into scortum through these holes, it is called abdominal hernia. Hernia is also caused by the loosening of the intestines. When the intestine is loosened, part of it escapes into the scortum. It is, therefore, necessary to prevent their loosening.

In old age there is loosening in every limb of the body. And the same is the case with the intestines. When the muscles of the abdomen are rubbed, the organs within it get strengthened. Instead of drooping, they remain firm in their position, the looseness giving way to firmness. The same is true when the friction and massage is done on the chest.

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6. FRICTION OF THE HANDS AND ARMS

After the abdomen and the chest comes the turn of the hands and the arms. With the same brush one should rub them thoroughly—starting with the fingers upwards.

It is very important to rub the fingers, arms and the socket joints of the shoulders. It is in these muscles and joints that uric acid accumulates. The accumulation of such foreign material in these places leads to pain in different parts of the body—even to arthritis, gout and rheumatism.

When these areas are rubbed, there is contraction and relaxation in the capillaries with the result that further accumultion of uric acid or other foreign matter is prevented. If some foreign matter has already accumulated, this friction unseats it and carries it away from the blood-vessels lying beneath the skin. Just as we clean a vessel and remove its accretions by rubbing it with hard substance, similarly uric acid and cholesterol deposits obstructing the free flow of blood are removed by regular friction and massage. This is the secret of youth.

7. FRICTION OF THE SKIN OF THE BACK

What remains now is the back. Its friction is not easy to do. It is because the hands do not reach its length and breadth.

I do the friction of the back with the same brush in the areas where my hands can reach. For other parts, I use another brush with a handle which is available in the market for a paltry sum. It is generally used for scratching the back, the handle enables it to reach the lower and the upper part of the back where hand cannot reach as it has a long handle.

One should use this brush with a handle moving it briskly from the neck downwards and then in the reverse direction. While rubbing the back, one should take special care to rub the spine through which all the nerves pass.

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8. OILING, FRICTION AND BATH

Whatever has been mentioned above about the friction and massage of the skin may be summed up by saying that it aims at activating the circulation of bloood.

From heart, the arteries carry blood to different parts of the body. Big arteries branch out into several small arteries as they proceed further and keep on branching out and reducing into thinness, sometimes becoming as thin as hair. Then they are called capillaries.

Thus the function of the arteries and the capillaries is the same; to carry blood from the heart to the entire length and breadth of the body.

Friction of these arteries and capillaries sqeezes them and prevents the foreign deposits from sticking to the walls of the arteries and in the process accelerate the pure blood supply to all the organs of the body.

With friction and massage of each part of the body, its rigidity gives way to elasticity and activity. And herein lies the secret of youthfulness.

After friction I take certain exercises which are based on contraction and relaxation. I will describe these exercises in the next chapter.

After performing the exercises of different organs and their friction with the plastic prickly brush I massage my entire body with mustered oil. After the friction, the pores of the skin are opened, and the skin becomes a little rough. Massage of the oil, thus, serves two purposes : It strengthens the body as part of the oil is absorbed by the skin ; and it also removes dryness which follows the friction.

Mustard Oil can be substituted by Olive Oil. While mustard oil creates stickiness, olive oil is free from it; nor does the olive oil, which is of course costlier than mustard oil, spoil the clothes.

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For several years I used to get my body massaged by a professional, but now I do it myself. As a result I not only get some extra exercise but also I have become self-reliant. I don't have to depend on others for it. Besides, it saves money too which can be utilised for purchase of oil.

After this I take rest for 15-20 minutes, and then I have a bath with hot water. Instead of using a soap, I use *Sikaakai powder* during bath. As soap contains soda, it does more harm than good. It does remove the stickiness caused by oil-massage, but it also removes the body's natural oiliness. *Sikaakai* removes stickness but not oiliness.

Whenever I go outside I carry two or three kgs. of *Sikaakai powder*. There are two ways of using it. First is to pour two tablespoonfuls of it in a bucket full of water and have a bath ; and the second is to put 120/180 grammes in a little water at night and apply it on the body next day before the bath.

While *Sikaakai* removes the greasiness or stickiness caused by the use of oil in massage, it does not affect the natural oiliness of the skin.

Some people are of the view that oil applied on the outer surface of the skin, cannot be absorbed by the body and that it only creates stickiness and nothing else. In their view the main purpose of oiling the body is only massage which can be done even without the oil. However, there is no doubt that the oil massage, removes dryness, softens the skin, and gives a good exercise to the body. One should do the massage oneself so far as possible as it serves the purpose of exercise also.

A bath with *Sikaakai-powder* after the massage keeps the skin healthy, soft and free from diseases and above all retains the lustre of the youth on the face as well as all over the skin of the body.

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9. HOMOEOPATHIC MEDICINES FOR ITCH AND ECZEMA

There are many diseases of the skin which are generally suppressed by external ointments and balms. The function of the skin is to bring out to the surface the diseases within through excretion.

If they are suppressed by such ointments and balms, these diseases instead of being eradicated turn inside the body affecting the heart, the liver and the lungs or any other vital organ. Though, apparently, the skin is cured but it has given rise to another more pernicious disease.

We are giving below for the benefit of readers the Homoeopathic treatment of some of the skin diseases :

(a) **Graphites 200 :** It is useful in different types of skin diseases. Its main symptom is sticky, honey-like discharge from the head, the face, the joints of the fingers or from behind the ears where the eczema is. It is particularly suitable in eczema when corners of the mouth and eyes burst and sticky discharge comes out of them. The eczema is uneven and there is severe itching. Skin becomes dry and hard like a horn.

While *Graphites* is good to cure moist eczema, honey-like stichy discharge, *Rhus Tox* 200 is given for dry eczema.

(b) **Calcarea Carb 200 :** This medicine, generally given to children, is good for eczema which spreads from head to face with white crusts and scales coming over them. Child scratches severely.

(c) **Arsenicum Album 30,200 :** it is useful when the skin becomes thick after continuous itching and small pimples grow. It is also prescribed in old eczema which is accompanied by acute burning sensation and itching. The medicine falls in the category of the "specifies" when burning sensation and itching are due to appearance of bile after consuming fish.

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(d) **Sulphur 6** : It is useful when itching aggravates after a bath. According to *Dr. Dearborn* no other medicine is more effective than *Sulphur* 6 in curing severe itching.

(e) **Mezereum 30** ; *Dr. Baehr* says that this is the best medicine for crusts and scales on the head. It is also useful when itching leads to bleeding.

(f) **Rhus Tox 30, 200** : It is useful in case of itching after small eruptions and herpes. Itching aggravates at nigh, particularly in rainy or winter seasons. It is given in dry eczema.

(g) **Croton. Tig. 30, 200** : Severe itching in scrotum is cured by this drug.

(h) **Sepia 30, 200** : Useful when the skin is affected by grey spots.

(i) **Dolichos 6, 30** : It is prescribed for itching in old age. Particularly in complaint when the skin is clear but the itching is severe making one scratch with nails.

(j) **Phegopyrum 3, 30** The medicine is prescribed when the patient feels as if he would go mad with itching.

Four small pills of the above drugs in 30 potency may be given at a time and given up after sign of some relief.

(k) **Kalibrom 3** : It is useful in pimples. If pimples are due to indulgence in masturbation, then give small pills of *Acid Phos*, 30 four times a day with hot water.

10. LEUCODERMA

When white spots start appearing on the skin, it is called Leucoderma. Administration of 2 grains of *Arsenic Sulph Rubrum, 3 trituration*, given for several days cures this disease or stops its further spreading.

For more information on skin diseases, please refer to the author's *Rog tatha unki Homeo chikitsaa* (*in Hindi*) or *First-aid Specifics of Homoeopathic and Biochemic Treatment* (*in English*).

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CHAPTER 9

Exercises of Organs for Keeping Young

Before friction of the skin, oil massage and the bath, I take a few exercises based on contraction and relaxation of the muscles, nerves and the joints.

It is contraction and relaxation which is responsible for elimination of foreign matter and rejuvenation of every part of the body.

The exercises described below aim at removing rigidity and replacing it with elasticity of different organs of the body. Old age is forgotten as soon as regidity goes.

Following are the exercises :

1. EXERCISE FOR JOINTS OF KNUCKLES

Generally deposits of uric acid in the joints of the body lead to rheumatism or arthritis, even gout, though the patient may also have a rheumatic or gouty diathesis.

If there is swelling in the joints accompanied by fever or pain, that is called rheumatism. The symptoms of rheumatism may be found in muscles also.

Dr. J. Compton Burnett says in his book '*Gout and its Cure*' that though innumerable theories have been advanced as to the nature and cause of gout, however, "One line of thought runs right through most of them, viz., some reference is made to the urine or to one other of its constituents, according to the terminology current at the time, such as, tartarus, stone, gravel, grit, uric acid, urate of Sodium."

Some diagnosticians say that the cause of these pains is not known.

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Gout and Rheumatism are caused by deposits of crystals of uric - acid etc. Contraction and relaxation of each joint or muscle prevents accretion of such deposits or facilitates their elimination, if they already exist.

When asked if he ever had an experience of arthritis, rheumatism or gout, *Dr. Burnett* explained in the same book "Yes, I eat two oranges three or four times a day; drink plenty of clean cold water; avoid game and beef; live on plenty of green stuff, particularly salad; keep my skin clean and active; and I soon get rid of the enemy."

A friend of mine told me that he had a severe attack of arthritis and all his joints were paining. Somebody advised him to stop eating anything and live only on oranges for a month or two when there is a season for them. He followed the advice and was perfectly cured.

Because joints constitute the main area of this disease, I start with the exercise of the joint of knuckles (bones of finger joints).

Moving the first joint of each finger backward and forward for 100 times results in contraction and relaxation of this joint (knucle) and leads to prevention of deposits of uric-acid crystals there. If these deposits already exist, this exercise will help in removing them.

There are 28 joints of ten fingers of both the hands. It will take 20 minutes in all, to move these 28 joints (knucles) backward and forward, 100 times each. One may reduce the period by shortening the number of movements of each joint of the fingers.

The easiest way to exercise the joints of the knucles is to place them on the palm of the other hand and move them forward and backward. This process can be accelerated by practice. Time spent on this can also be decreased.

Generally, in arthritis, there is pain in the joints of fingers. As already said, these joints should be exercised to remove the

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deposits in the finger-joints; gradually pain will disappear. For women, the best treatment is to start kintting. In knitting these joints undergo various kinds of twists and movements with the result that arthritis disappears. Besides knitting, they should take to the work of the kitchen, instead of depending on the servant. If they will occupy themselves in the kitchen-work their fingers will receive the necessary exercise and thus on the one hand they will save the money spent on the servant and will be free from the pangs of arthritis, in the bargain.

If a man of 60 maintains his agility, is it not youth ?

After the exercise of the finger-joints (knucles), I give jerks and jolts to both my palms and wrists for 100 times.

These jerks, which involve contraction and relaxation of the wrists, prevent the accumulation of crystals of uric acid in the joint of the wrist, otherwise, if uric acid will get deposited in any joint it will form a crystal and the movement of the joint will give pain.

2. EXERCISE OF THE JOINTS OF THE ARMS AND SHOULDERS

After these exercises of joints of the fingers and palms, I take some exercises for my shoulders.

In old age people generally complain of what is called 'shoulder-freeze.'

Pain in the shoulders makes it difficult to move them. This is also caused by deposits of the uric acid. For this I move my right and left arms separately in a circle, each circle 15 times.

This exercise removes or prevents the deposits of uric-acid, making every limb active, filling life with vigour, vitality and enthusiasm.

3. EXERCISE OF THE HIP-JOINTS

After the exercise of the shoulders, the next area to which I pay attention is the one which connects the thighs and

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hips with the waist. This entire area, generally, begins to pain in advanced age. The old man usually finds it difficult to sit or get up without any support. This is called lumbago or backache or pain in the loins.

This phenomenon can be attributed to the rigidity of the joints of bones which may be likened to the dry wood ; like the dry wood, the bones of an old person lack elasticity.

The patients who remain in bed for several months in succession suffer from what is known as 'bed-sores'. These bed-sores occur because the patient remains in one position without any movement.

To avoid pain in the waist, it is necessary to exercise it by giving jerks and jolts. For this purpose, I stand erect and place my hands on the left and right sides of the waist moving it forward (5 times), backward (5 times), two sideways (5 times each), and move the waist in a circle, first from the left to the right and then from the right to the left side (5 times). These movements are six in number—one forward, one backward, two sideways, and two in circles.

4. EXERCISE OF THE SPINE AND THE BACK

Spine, known in Hindi as the "*Sushumna*"(सुषुम्ना) or the "*Meru dand*" (मेरु दंड) is made up of small round pieces of bones called Vertebras. Starting from the neck and passing through the back, they reach right upto the lower part of the waist.

There are 32 vertebras in all forming the spinal chord. Seven (7) in the neck, Twelve (12) in the back, Five (5) in the waist and Five (5) just below it, and the rest Three (3) from here upto the end of the waist. Thus 7+12+5+5+3 is equal to 32.

Each vertebra is fitted on to the other in such a way that the whole spinal column appears to be a rosary woven of different beads.

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The movement of the spinal chord is possible only because these vertebras are separate as the beads. If they were in the form of a single bone, it would not have been possible to move it backward or forward or sideways, and so one could not bend on any side.

Sensory and motor nerves from the brain run in different parts of the body through these vertebras. The importance of keeping the spinal column healthy can be realised if one knows that it is through these that the nerves from the brain pass. Whatever sensation is carried to the brain through sensory nerves, its reaction is passed on to the different organs of the body through motor nerves, and spinal column is the medium through which the nerves pass.

Sometimes vertebras of the neck get jammed up after their ossification with the result that either the neck cannot bend or it cannot be kept erect. Sometimes there is a slip-disc in which vertebras get jammed with the sensory nerves or there is inflammation of a vertebra, called spondylitis in which there is a swelling in the vertebras resulting in pain in all these cases. Exercises of the spinal chord can prevent these mishaps, but these exercises would do more harm than good when the spinal chord is affected by any of the three diseases—ossification, slip-disc or spondylitis. These exercises should be taken as a preventive step, when the above complaints have not set in.

To exercise the spinal column stand erect with hands raised upward, the arms closely touching the temples, and then bend forward making an effort to touch with fingers of the palms the right and left toes. Even if it is not possible to reach the toes, bending in arch itself is good for the spine.

In the same position, one should bend backward trying to reach one's fingers towards the earth or one's heels as far as possible. Even if one cannot touch the earth or one's heels in bending backward, one should try to bend backward as far as possible. This will activate the spinal column and even in old age one would be able to stand and walk erect.

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I do this bending—forward and backward—five times each. This bending involves contraction and relaxation and is helpful in preventing the jamming up or rigidity of the vertebras. It also keeps the sensory and motor nerves, passing through the spinal chord, healthy. These exercises are six in number—forward and backward, two slantwise, two in circle.

I bend my body backward only as far as it can conveniently go and stay in this position till I finish the counting upto 300. I also give jerks and jolts to the body in this position which helps in keeping the spinal column straight. Our back grows bent up in old age because most of our works are done in a forward bent-state of the body. To undo this the reverse position should be maintained for a considerable time during exercise.

5. EXERCISE OF THE MUSCLES OF THE ABDOMEN

When I was 18-19 years old as a student of the *Gurukul Kangri*, the eminent Sanskrit scholar, late *Pt. Satvalekar* also lived there, as an independant student interested in the study of the Vedas.

He was studying *Vedas at the Gurukul* and got friendly with the *Brahmcharies* there. He was greatly interested in Yoga. One day he came to the Ashram and gave a demonstration of what is called '*Nyoli-Kriya*' (न्योली-क्रिया) which is meant to exercise the muscles of the abdomen.

Since I had been interested in spiritual matters while student, I learnt this process from him within three-four days. He told me that it was a *Yogic* method of keeping intestines and other internal organs of the abdomen in perfect health, and so I was eager to learn it. The process is as follows :

(a) First Process : Place both the hands on the knees ; stand in a posture as if you are sitting on a chair. Exhale. Draw the muscles of the navel and the abdomen inward with the abdomen almost clinging to the back. This is the first process.

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(b) Second Process : After this, project the muscles on both sides of the navel outward. This projection, which is maintained even when the right and left side of the abdomen remain stuck up to the back is moved in a circle. I move this projected abdomenal muscle in a circular position 75 times—in three units—each unit consisting of 25 such circular movements. This is the second process.

(c) Third Process : In the next process, the abdomen is contracted within, but the projection of the navel is maintained as done earlier, and the muscles of the abdomen—both on its left and right side—are activated, in and out. This is the third process.

I do this yogic exercise called '*Nyoli Kriya*' (न्योली क्रिया) or exercise of the abdomen 75 times in three units each, each unit consisting of 25 processes.

(d) Fourth Process : In the last part of this process, the muscles above the bladder are in turn stretched upward and released downward. This practice has its effect on the prostate gland. I do this exercise also for 75 times in three units—each unit of 25 exercises—in the same way as before, the muscle up and the muscle down. The whole process of '*Nyoli*', does not become as clear in writing as when it is demonstrated. This practice is being shown in pictures of the book.

It is being generally demonstrated by people in such places of pilgrimage as Hardwar. It becomes easier to learn it with practice.

There are many benefits of this exercise of the muscles of the abdomen which is described in the *Yoga* as '*Nyoli*'.

We have mentioned four exercises (*a*), (*b*), (*c*) and (*d*) of the abdomen. The first, second and third exercises have their impact on the inner parts of the abdomen.

Inside the abdomen are liver, small and large intestines, spleen and pancreas. These exercises (first, second and third) which activate the muscles also inject life into these inner limbs.

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When stomach is activated, digestion improves, when liver is activated, there is no bile trouble, and with toning up of the intestines there is no constipation.

It is the result of the first three exercises that one becomes free from gastric troubles and does not suffer from constipation.

The fourth exercise has its impact on the bladder. The contraction and relaxation of the muscles above the bladder removes the rigidity of the prostate gland which surrounds the urethra at the outlet of the bladder. This gland is a unique feature of male physiology. Women do not have it.

In old age this gland becomes swollen and hard with the result that passing of urine becomes difficult. Stretching of the up and down movement of the abdominal muscle practically massages the prostrate gland and keeps it in shape.

This exercise, which prevents the fattening and swelling of the prostate gland should not be taken when there is swelling of this gland. It is only a preventive measure.

6. EXERCISE OF THE WAIST.

After the exercise of the abdomen—*Nyoli* (न्योली क्रिया)—I start the exercise of the waist. The method of this exercise is as follows: Lie down on a mat with legs straight and both the arms stretched back touching the right and left side of the temples. Now raise the head along with the arms and curving the body try to touch the feet with the fingers of the hands. Try to catch hold of the feet and make an effort to touch the knees with your forehead. Never mind if you cannot do it, but try to bend the forehead towards the knee-joints. Then, go back to your former position and lay down straight. I do this exercise 5 times, but one can decide for oneself as to how many times one would like to do this exercise. This exercise keeps the waist in good shape and one does not suffer from backache. Raising the head closed with arms and bending the body to touch the feet is contraction and returning to the former position is relaxation.

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In old age usually either the lower part of the waist bends forward or it does not remain erect. Sometimes it also aches. The best exercise for it is as follows:

Put a blanket or a sheet of cloth on the floor. Then sit erect with both your heels joining each other touching the perineum (space between thighs from anus to genitalia). Both the knees and the legs joined together should be tightly coiled round by your arms and hands. Sit for a moment in this posture with your hands coiling round the thighs and legs. Tighten this position. Then, uncoil your hands and placing your palms on the floor get up with a jerk. Heels must remain in their original position, though they will leave the perineum.

By getting up this way, whole pressure is exerted on the pelvis. Pelvis is that area where all the bones of the organs relating to reproduction, urine and excreta, the hip bone, sacrum and coccyx jointly meet and support the spine.

With this exercise these bones will remain flexible and the waist would not bend or droop. There will also be no pain in it. But this exercise should not be taken when the waist is aching. If performed during normal times it will ensure flexibility of the region of the waist and there will bo no backache.

7. SHEERSHAASAN

After this I do the '*Sheershaasan*' (शीर्षासन). We spend the whole of our lives in one position—head up and legs and the whole of the body down.

If the direction of the circulation of the blood can be reversed for one or two minutes (as it happens in this exercise) deposits in the nervous system are cleared the same way as a drain is cleaned when its current is reversed.

In old age, '*Sheershaasan*' (शीर्षासन) should not be performed for a long time as blood flowing too much in the head may lead to brain hemorrhage.

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I used to do '*Sheershasan*' till the counting of 100 which I think was enough. Now after reaching the age of 86 I have stopped it lest I may fall and break my bone.

Persons suffering from blood pressure should not do this '*Aasan*' because the flow of their blood is already more towards the head. One should stand erect atonce soon after doing this '*Aasan*'.

8. EXERCISE OF THE LEGS

All the bodily exercises described so far involve contraction and relaxation of all the limbs of the body which help in the removal of deposits and keeping them young.

What remains now are legs. I take two exercises for the legs, first is abruptly falling down and getting up abruptly with a jerk. And the second is jumping and hopping around in the house. These exercises prepare the body to be prepared for an accidental fall.

Besides, the above hopping and jumping the following leg exercises are recommended which I perform regularly :

(a) **First exercise** : Lie down flat on the ground with legs stretched out length-wise with heels joined together. Raise both the legs with heels from the ground a little more than 4 inches. Keep the legs in this position for one or two minutes. The whole pressure will be on pelvis—the bony base of the trunk formed by the hip bone, pubic bone and the large triangular bone above the coceyx, called Sacrum. This will cure all sorts of piles. This is the first position of the leg exercise.

(b) **Second exercise** : The second position is to raise the legs up to the waist, supporting the hips on both palms of the hands. One should remain in this position for nearly two minutes. This position strengthens the waist and all the structures lying within the back. This is the second position of the leg exercise.

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(c) **Third exercise** : The third position is to raise the whole body up to the chest or even above it giving support to the body with both palms and arms. This is called '*Sarvaangaasan*' and serves the purpose of '*Sheershaasan. Yogis* recommend this *Aasan* as a cure-all. One should stay in this *Aasan* as long as one can conveniently remain. This is the third position of the leg exercise.

(d) **Fourth exercise** : The fourth position is to take back both the legs and try to touch the earth with the toes of the feet and swing back to touch the earth with fingers of the hands, head touching the both knee-caps. This is the fourth position of leg exercise.

(e) **Fifth exercise** : Fifth position is to lie straight on the ground and to move both the knee-joints 25 times, move the hip joints like cycling 25 times and both the legs at hip-joint widewise 50 times—in and out.

This exercise should be repeated several times. It removes *Arthritis.* It is said that there is no treatment for *Arthritis* of knee joints. But my experience is that if one performs this exercise every day lying on the back and moving the joints of the knees up and down and moving the calves and the knee-joint in a cycling position, the knee-pain disappears after two or three months. But this has to be regularly done.

9. EXERCISE OF THE PAWS

I also take some exercise for both the paws. To begin with, I hold my right paw with my hands and move the joint of the paw upward and downward for 25 times I do the same for the paw of the left heel.

This puts pressure on the joints of the heels. Then, holding both the paws separately I move each of them sideways for 25 times. I also hold the toes of both the feet separately and move each of them upward, downward, and crosswise.

After having done this, I hold tightly the big toe of each

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paw separatly and move it with a jerk towards the left, if it is a right one, and towards the right, if it is a left one for 25 times.

After 25 such jerks I hold the right paw tightly towards the left, and do the same with the left paw and keep them in this position till the counting of 25.

It has been observed that in old age the toes of the feet get jammed up with the adjoining fingers due to the tightness of using shoes for a long time. This causes a great trouble, as regards the toes of the feet.

The exercises mentioned above keep the toes of the feet in shape besides preventing deposits of foreign matter in the joints of the toes of the feet as well as in the joints of the heels resulting in pain.

10. WALKING OR JOGGING

It has often been said that walking is the best exercise. While there is some truth in this observation, it is not absolutely true. In fact, walking mainly exercises the legs but not all parts of the body. Mere walking does not bring the freshness and the vitality to all parts of the body as do the exercises mentioned above. However, jogging is much better than simply walking as in that all organs of the body are exercised.

Even then, people who are unable to take these exercises may go out for a walk and it would do good for their health.

11. GETTING UP ABRUPTLY

As already stated, in a former heading, supporting the body with the right hand, I get up abruptly with a jerk from the left side. I also get up the same way from the right side supporting my body with the left hand.

I do this for five times each. This keeps the legs and knees active.

The practice of maintaining a co-ordination between the hands and the legs also helps a man keep his balance in case

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of an accidental fall. When old men attend a meeting, they find it difficult both to sit and get up. This difficulty disappears with this exercise.

As generally old people break their coccyx (the last bone of the spinal column) by accidental fall and some of them die due to this accident, it is advisable to train the body by such wilful fall so that in time of accident one may control oneself immediately.

For the exercise of the legs I jump and run from one corner of my room to the other even though it is not very big. I run and jump as if I am participating in '*Kabaddi*' (कबड्डी).

Doing this convinces me that I have not grown too old. It is useful to act like the youth to feel oneself young.

If with the advance of years, one begins to think oneself old and act like one, his thinking and his action will make him look older than his age.

It has been often noticed that so long as one is in service, one remains active and agile ; but as soon as one retires, one begins to consider oneself useless and consequently dies also early.

One of the secrets of longevity is to keep oneself usefully employed without either considering oneself old or behaving like one. For a man who is usefully employed, to pass time is not a problem. For an idler, life becomes a burden and his days are numbered.

I do the exercises of the body in the same order in which I have described them. This order, however, need not be strictly followed. It may be changed according to one's suitability.

The underlining principle of all these exercises is to keep all the joints in our body flexible and active. Keeping this principle in mind one can change these exercises and plan out his own which may suit him. There is no rigidity in the plan I have laid out above. Flexibility is the criterion.

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The joints begin to pain in old age because of the deposits and the exercises mentioned above prevent them.

In this chapter exercises have been suggested for prevention of gout, rheumatism, arthritis, prostate gland and shoulder freeze. Here are some of the homoeopathic drugs for their treatment and cure :

12. HOMOEOPATHIC MEDICINES

(a) **Gout** : When urates of sodium deposit in the small joints of the fingers of either the hands or feet, they develop swellings and pain. It is called gout. Main medicine to cure this disease, which is hereditary in nature, is **Urtica Urens** (mother tincture). Five drops of this medicine should be taken in hot water as suggested by eminent Homoeopath *Dr. J. Compton Burnett* in his '*Gout and its cure*'. The same will help in Rheumatism and Arthritis. The tincture drops should be taken four to five times for several days. When uric acid is removed by this medicine, disease is cured.

Caulophyllum, 3: is also useful in this disease. Four pills of potency No. 3 should be given four times a day. The medicine should be stopped after relief.

A gouty or rheumatic patient should take a lot of **Oranges** because they help remove uric-acid from the body. The deposits of uric acid in the muscles and joints cause this disease. Four oranges 3-4 times a day or only oranges for a month will cure permanently.

All sorts of meats, fish, alcohols, pulses, choclates, coco, strong coffee, strong tea, sweets, chatnis, all sorts of proteins produce uric acid.

Fruits, milk, cheese, curd, butter milk, Arraroot, Sago, dry fruits, light tea and light coffe, however, do not produce uric acid.

Uric acid is removed from the system if one takes two and half or three litres of water every day.

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(b) Rheumatism : Generally, there is a pain in the muscles and the joints after getting drenched or exposure from hot to cold or from cold to hot conditions.

If one finds relief by movement, one should take 4-5 pills of *Rhus tox* 200, once in a day ; and if rest gives relief, one should take 4-5 pills of *Bryonia* 200.

One of the symptoms of the *Rhus tox* patients is that first movement gives pain, but on continual motion one gets relief. In case of *Bryonia* patients, the pain keeps on aggravating with motion but rest gives relief.

(c) Arthritis : If the patient feels pains while there is no movement of the affected part, try *Bryonia* ; if on first movement there is pain and it disappears after continuous movement then try *Rhus Tox*. Start with 30 and you may go on raising the potency when the lower potency stops working.

(d) Ayurvedic Cure of Arthritis : Hindustan Times of 4.11.1982 reports :

"The traditional *Ayurvedic* herb *Haldi*—'Turmeric'—which is used as a condiment in India has been found highly beneficial in the treatment of arthritis and inflammation. Researchers in the Central Drug Research Institute (CDRI) have revealed, *Dr. R.C. Shrimal*, the Assistant Director of the pharmacology division of the Institute, told PTI today that they have successfully extracted the major compound '*Curcumin*' from '*Haldi*' which during clinical trials has proved as a safe and potent anti-inflammatory drug. '*Haldi*' when mixed with slaked lime has been used since time immemorial as a household remedy for treating injury and inflammation".

One teaspoonful of *Haldi*-powder with slaked lime along with honey should be taken for several days. The preparation is made as under :

Take one Kilo of *Haldi* roots. Also take two kilos of hot, unquenched lime-stone. Then place both of them in an

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earthen pot, *Haldi* at bottom and lime on top. Put in it water four times of lime. Boiling will start. When boiling finishes then close the earthen pot tight with a lid, keep if for two months. Now take out the *Haldi* roots and clean it from lime. Now grind the *Haldi* pieces fine into powder. Take this powder 3 grams with honey for four months. It will cure arthritis and will rejuvinate the body.

For arthritis see also Chapter 23 in which findings of *Dr. C.K. Atal*, Director, Regional Research Laboratory, Jammu, are given regarding the curative property of *Gum Guggulu* with respect to Rheumatism and Arthritis.

(e) **Backache** : The main drug for backache is *Eupatorium IX* 4—5 pills, 3—4 times a day. *Ruta*, 3 is also useful in backache. *Aesculus*, 3 or 30 may also be used. When I suffered a backache, *Nux Vomica* 6 was very helpful to me repeated several times in the day. Any of these medicines 4 to to 5 pills can be taken during the day. When the medicine has acted and pain disappears, its use must be stopped.

(f) **Shoulder-freezc** : In case of shoulder-freeze, one should try 4 pills of *Syphilinum* of IM potency only. Many patients have benefitted from this medicine. *Dr. Sarabhai Kapadia*, a well-known Homoeopath of Bombay, recommended it.

In case of pain in the right shoulder, *Sanguinaria* 6 and in case of pain in the left shoulder, *Spigelia* 3 is useful.

(g) **Prostatitis**: In old age, in addition to pain in the muscles or the joints, one also suffers from swelling of the prostate gland.

Prostate gland lies at the mouth of the bladder. When there is swelling in this gland, passing of urine becomes difficult.

Some times urine comes in drops or it stops entirely.

In allopathy, the only treatment is operation. In Homoeopathy the routine medicine for prostatitis is *Sabal Serrulata*,

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Mother tincture, 5 drops 3 times a day or 3rd potency in the same manner.

As regards Mother tincture of this medicine the drops should be mixed with hot water and taken 3—4 times a day.

I took 4 pills of *Sabal Serrulata* 3 potency two times a day. After taking it for a month, test in All India Institute of Medical Sciences showed that my prostate was normal.

Even *Ferrum picric* 3 x, or *Parera brava* 3, have also been found effective in prostatitis.

According to *Dr. Frank Miller*, *Prunus spinosa* 6, is very useful in this complaint. Four pills of this medicins of 6 potency should be given 4-5 times a day.

A Thought on Yoga and Seclusion

"Just as the body requires rest for the recuperation of its forces, so the spirit requires solitude for the renewal of its energies. Solitude is as indispensable to man's spiritual welfare as sleep is to his bodily well-being ; and pure thought, or meditation, which is evoked in solitude, is to the spirit what activity is to the body. As the body breaks down when deprived of the needful rest and sleep, so do the spirits of men break down when deprived of the necessary silence and solitude. Man, as a spiritual being, cannot be maintained in strength, uprightness, and peace except he periodically withdraw himself from the outer world of perishable things, and reach inwardly towards the abiding and imperishable realities. —*James Allen.*

Note : In this chapter, as well as in some others, the word 'I' has been repeatedly used to lay emphasis on the fact that all what I have written is on the basis of experience. To some this repetition of 'I' may appear nauseating, but it has been necessary to repeat this word to drive home that all what I write is not hearsay, but solid fact proved by personal experience.

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CHAPTER 10

How to Keep the Face Young

Some of the diseases which afflict a man in old age are arthritis, rheumatism, gout, cataract, prostatitis, liver complaints and constipation.

All these diseases will be dealt with in the coming chapters. In addition to these diseases, one of the problems in advanced age is : disfigurement of the face.

People come to know about most of the diseases only when told about them, but disfigurement of one's face is visible to everyone.

Wrinkles start appearing on the face and it becomes sunken, affecting its roundness and colour. Even folds under the neck disfigure the face which was once so full and beautiful. Hair start greying as well as falling.

The face will be discussed in this and the neck in the next chapter.

1. FACE

If one starts the exercises discussed in this book either in the youth or at the beginning of the old age, regularly, one can retain the youthful contours or restore the characteristic features of the youth which are mainly two—flexibility and roundness of the limbs.

If no special exercises are done for the face, the neck and the cheeks, then despite strength and vigour in the rest of the body, the cheeks start looking sunken, and folds start appear-

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ing as it happens in the case of wrestlers. While their hands, the legs and the chest, look very strong and youthful, the advanced age begins to show up in their face. It is because these wrestlers have, all their lives, done exercises for all these parts of the body but not specifically for the face.

Thus it is important to exercise the muscles of the face besides exercising muscles of other organs of the body to look young.

If the muscles of the face are properly and regularly exercised, one can retain in advanced age its youth as that of other parts of the body.

Old age in such cases does not make the cheeks sunken, eyes do not become hollow, skin does not start hanging. On the other hand, they retain all the lustre, the roundness and all the beauty of the youth.

These results cannot be obtained by applying creams and powders on the face externally. These things are washed away with water; they do not become part of the body. For anything to become part of the body or to be able to influence it, it must be taken internally, so that it may pass through the process of assimilation to enable it to contribute either to growth and development of cellular tissues or to activate the flow of blood in the capillaries the redness of which is reflected on the face.

The so-called '*skin foods*' advertised by manufacturers are thoroughly useless as they do not serve any of these purposes.

The main function of the skin is excretion and not absorption of any nutrients applied to the skin outside.

Whatever is applied on it from outside, is not absorbed; it is removed by washing or by handkerchief. It does not become part of the skin. Even if a very minor part of it is absorbed, it is negligible.

If any benefit seems to accrue to the users of such foods, it is not because of their ingredients, but because of the friction

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involved in their application.

In fact, contraction and relaxation (which mean friction) are responsible for removal of deposits in arteries, veins and muscles and keeping the skin active and youthful. The youthfulness and softness of the skin depends only on its friction and massage. All leather articles are given a shine by friction. Likewise, face can also be given a glow by the friction and massage by fingers or palms. By this process we can overcome wrinkles or prevent them from appearing on the face.

The exercises mentioned here are so simple that they can be taken while lying in bed. One may feel a little strain when one is sitting or standing. But what strain can one experience when one is lying in the bed and is massaging the muscles of the face so that no wrinkles may be formed.

While doing these exercises one should banish from one's mind the thought that wrinkles on one's cheeks, chin or neck can be removed by any external application of '*skin foods*'. For centuries manufacturers have asserted and made women to believe that youth can be attained by these creams and powders and signs of old age can be delayed or removed.

This is the reason why women form the bulk of consumers of such stuff, and it is on their account that cosmetics worth crores of rupees are being sold in the market and thousands of shops keeping them flourish.

If these '*skin foods*' were able to bring about this miracle, money could throw the doors of beauty and youth open to all thin and ugly looking women. It is a pity that women waste a lot of money on cosmetics, being falsely allured by the advertisers. I wish they had known that the propaganda of these manufacturers cannot be substantiated by any scientific data available.

Some women say that the colour of their face changes and they experience a glow of youth after the use of such cosmetics.

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This is, however, their illusion. The glow that they see on their faces is not the glow of youth but of these cosmetics brought out temporarily.

Such temporary effect produced by these colourful powders is washed away by perspiration or water.

The real glow or beauty of youth can be attained only through the method which, as explained, lies in the friction and massage of the face. Where there is health, there is beauty. Use of cosmetics for the sake of beauty only makes women look ridiculous. They only look like characters in *Ramlila* where faces are smeared with such stuff.

Some persons object to friction and massage on the ground that they make the skin loose and rough and lead to excessive perspiration because of increased opening of the pores. If these two processes are done in excess, such possibilities cannot be ruled out. But as 'excess in everything is bad ; excess in friction and massage should also be avoided.

Even if excess in friction and massage may lead to loosening of the skin, continuous and regular practice in the long run will strengthen it.

The way to avert the possibilities of the loosening of the skin due to friction or massage, is to keep the skin in place by stretching it with the first and second fingers of one hand, and to rub it with the palm of the other hand.

Some of the main areas which need special attention for rubbing are the forehead, the eye-brows, the temples, the cheeks, the corners of the mouth, the jaws, the neck etc. Looseness of these muscles should be regularly massaged with plastic brush or with the palms of hands.

A great care should be taken while doing these exercises to avoid scratches. The best way to avoid them is to apply a little of boro-glycerine on the areas subjected to friction. A rough towel can also be used for friction. I, however, use a

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spiky brush, generally used for brushing clothes or feet, but the scratches can be dealt with by the application of a little Boro-glycerine. If muscles are too soft to bear rubbing, it can be done simply by palms of the hands.

Brushes with soft spikes are also available which can give friction to the skin without causing scratches.

Friction of the different parts of the face and the neck should be followed by the massage which would strengthen muscles and stop wrinkles and folds. In between the friction and the massage, it would be useful to apply some astringent on the skin.

Of all the methods for beautifying the skin, one which is considered fundamental is contraction.. Why folds start hanging beneath the neck ? Why does skin become loose ? All this happens because the skin loses its capacity for contraction and relaxation which means that it loses its elasticity.

For better massage of the skin, *Dr. Sanford Bennet* in his book '*Old Age—Its Causes and Prevention*' suggests a method which he finds to be highly satisfactory.

He says that those who are not hesitant to use eggs may apply the white substance of the egg on the wrinkles and leave it for 4-5 minutes before wiping it off.

The contracting effect of the white of the egg will remove the wrinkles. The skin will begin to look very smooth and clean.

According to him it is very strong astringent and should not be allowed to remain on the wrinkles for more than 4-5 minutes; otherwise it may cause the skin to shrink, deepening the wrinkles.

This method removes the wrinkles and makes the skin look very clean and smooth.

Some people suggest that it can be more effective if this white of the egg is mixed up after stirring with one tea spoonful of honey and a few drops of lemon.

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2. EXERCISE OF THE MUSCLES OF THE FACE—FRICTION AND RUBBING OR MASSAGE.

In the chapter entitled '*Friction of the Skin*' it has been mentioned that the skin has two layers—the epidermis and the dermis.

It is the dermis which is real skin because it is this alone which has muscles and capillaries.

Epidermis does not have either of them. It is actually the outer layer of the dermis or skin. Unless the dermis, which contains the muscles and the capillaries, is strengthened, no amount of feeding or friction of the outer surface will be of any use.

This is the reason why the glow of youth can appear on the face only when the muscles and capillaries of the dermis are strengthened. If these muscles, which support and maintain the face, are weak, the folds and wrinkles will continue to appear, cheeks will continue to be sunken and hollowness will continue to mar their beauty.

Mere friction of the outer surface or smearing it with powders and creams will not do.

In youth all the muscles are strong and bubbling with life—and because of this—there is strength in every limb. The face also remains smooth, round and full of glow.

These muscles, however, become weak as years advance. It is, therefore, not enough to do only its friction from outside; it has to be massaged as well along with other facial exercises.

For men and women, for both, it will be necessary to strengthen the muscles of the dermis to make the face look young and keep it so.

The question arises : how to strengthen the muscles of the face which have become weak with advance of years ?

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The only way to accomplish this is to use the same method as is being used to strengthen the muscles of other limbs of the body, like hands, feet etc. We strengthen these limbs by exercising them, by making them active. Unless this is done, they become weak and loose and start showing up signs of old age.

If the muscles of the hands, legs, thighs are contracted and relaxed, they increase in size gaining both strength and elasticity. Likewise, the muscles of the face are also strengthened by their contraction and relaxation, their friction and massage.

It is only when the muscles beneath the skin become weak and loose that wrinkles appear. To remove this looseness of the skin, one has to first strengthen the muscles by massage. When these muscles are strengthened, the wrinkles automatically disappear.

Friction removes only light wrinkles ; it is the massage which strengthens the muscles and capillaries in the dermis which solves the the problem.

The friction and the massage should be done very softly and without pressure ; they can lead to scratching of the skin or appearance of new lines on the face if hard brush is used and massage is done with pressure. There is a reason why too much pressure in massage may create new creases on the face.

Some fat lies beneath the dermis. With excessive friction or friction with a pressure—this fat may burn because of oxidation or combustion. This may lead to new facial lines.

Enough has been written on friction in the preceding chapter. Without repeating it, some direction will be given below for the massage of the face :

2. MASSAGE OF THE MUSCLES OF THE CHEEKS

There are eight supporting muscles of the cheeks—4 on the left and 4 on the right.

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Starting right from below the eyes, they form the cheek-muscles, and descending from there, they are attached to the cheek, bones surrounding the mouth. When you open or close the mouth, there is contraction and relaxation of these cheek-muscles.

In youth when these muscles are strong, the cheeks, which they support, also appear full and round. As years advance, the cheek-muscles lose their strength and elasticity gradually. Losing strength and elasticity the skin of the cheeks falls into creases, and lines and wrinkles appear and the cheeks begin to sink.

There is only one cure to remove them, and that is to energise the muscles of the cheeks by massage and to strengthen them, or in case of wrinkles to restore them to their former shape by rubbing and massage.

Put your palms firmly on both the cheeks you want to massage and then massage upward towards the temple or the croners of the eyes.

The massage should be from downward to upwards and not vice versa. It is enough to do this rubbing for ten times in the beginning. It may be increased gradually.

First massage one side of the cheeks, and then the other side. Both the cheeks can also be massaged simultaneously as stated above. One can massage the muscles of both the cheeks by puffing up the mouth and use the hollows of the palms for massge in circular shape.

This massage, which gives exercise to all the eight muscles, will remove the slackness of the cheeks and the wrinkles on them.

3. MASSAGE OF THE EYES-MUSCLES

The eight muscles mentioned earlier originate from the vicinity of the eyes. There are six bands of muscles, which

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surround the eyes. They are to the right side of the eyes, to the left side, upward, downward, crosswise to the right and crosswise to the left. With these six bands of muscles the eyes remain tight to their position and in good shape.

If these six muscles are not massaged, the eye-lids begin to swoop or hang downwards. These muscles should be massaged in a circular process with the palms of the hands with eyes closed. This circular massage will not only give exercise to the muscles, but will also give strength to the eyes.

Along with this massage of the eye-bands, one should perform the exercise of the eye-balls about which we shall write in detail in the chapter dealing with eyes. Let it be sufficient to say here that while doing *Praanaayaam* one should move the eye-balls to the right, to the left, upwards and downwards, crosswise—right cross, left cross.

4. MASSAGE OF THE MUSCLES OF THE CORNERS OF THE LIPS

In old age one develops some sagginess on both corners of the mouth where upper and lower lips join giving it the look of swelling.

In fact, it happens due to the looseness of a muscle which encircles the mouth, and this looseness may be attributed to its weakness in absence of any exercise.

To exercise this muscle and to remove the shape of swelling on corners of the mouth, insert your fingers of both hands in your mouth, alternately, contracting and relaxing the mouth by puffing the cheeks and massaging the puffed corners. This exercise will strengthen the muscle encircling the mouth making it strong and removing the wrinkles around.

5. MASSAGE OF MUSCLES OF CHIN AND JAWS

The muscles below the chin—both on left and right side—should also be exercised.

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The friction and massage of these muscles—and also of those below the two jaws—with palm will maintain the firmness of these areas and prevent folds and creases.

There is only one way to strengthen the muscles of the body—their friction followed by massage. Application of a thin layer of Boro-glycerine on the muscles after friction makes their massage easier.

The massage should be done from neck upwards towards the face and not in the opposite direction because the direction of the folds of muscles is from up downwards.

6. MASSAGE OF TEMPLES

With age, supporting muscles on the temples begin to sink resulting in the hollows.

This can be prevented by persistent and regular massage of these muscles. They become full and round as before, if you place your palms firmly on the temples and rub them towards the eyes. One should patter the temples with the palms of the hands.

Exercises of the face, which include both the friction and the massage, can be performed while lying in the bed. Those who have time—and in old age there is no dearth of it—can spend an hour doing these exercises.

They would help them pass their time in an interesting way besides fighting against old age.

With these exercises every one—however old—will find oneself filled with enthusiasm and joy characteristic of youth.

7. USE OF VINEGAR

If the skin of the face remains dry, it will be useful to prepare a mixture containing half a tea-spoonful of vinegar and equal quantity of lemon juice and a few drops of rose water, and apply it on the face. Let it dry for sometime and wash the face with hot water. The face will begin to glow.

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CHAPTER 11

How to Keep the Neck Youthful

If the flesh of the neck—both at the right and the left side—of a person starts hanging, he begins to look clumsy. It reflects no sign of youth.

Even if there are no wrinkles on the face or they are removed by exercises, one is bound to look ugly if there are folds under the cheeks or around the neck. These folds are apparently the result of the loosening of the muscles of the skin.

This is why special attention needs to be given to the neck in any attempt to remain and look young.

There was a lady in France who was born on May 16, 1616 and died on October 17, 1706. Though she lived for 91 years, it is said about her that her face never looked old. *Louis* the XIV the described her when she was 85 as the marvel of his reign.

Her photograph taken at 70 gives the look of a 30-35 year old lady. The secret of her eternal youth was regular exercise of her neck. Her name was *Madame Ninon De Lenclos.*

A pamphlet found after her death mentioned the exercises she used to take and some of them find place in this book.

Sitting before the mirror, she used to bend her neck forward and backward, sideways—right side and left side, circular, from the right side and the left, which strengthened her muscles of this vital organ. This was the reason why at 90 her neck looked youthful without folds.

These exercises, however, suffered from a defect. Since she did these exercises sitting before the mirror, the entire pressure rested on her shoulders. If the same exercises are done while

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lying down on or in bed, the muscles of the neck would receive their full advantage. The exercises of the neck are as follows :

1. NECK-MOVEMENTS—FORWARD & BACKWARD

Mr. Sanford Benett in his book '*Old Age—its Causes and Prevention*' suggested to keep a pillow below the neck (not the head) and then to move the head (which is lying behind the pillow) forward and backward alternately. This will contract muscles of the neck sufficiently and will strengthen them.

This exercise performed while lying down will not only cause less fatigue but will also result in contraction and relaxation of the digestive muscles and will lead to improvement in general health on this account.

One can perform this exercise while sitting also. While sitting move the neck forward and backward.

Start this exercise slowly and confine the movements to 50 if you experience giddiness in the begining.

As you do this exercise regularly, the number of movements can be increased to 100.

This and the following exercises of the neck can be performed while lying or sitting in bed or sitting on a mat on the floor.

2. NECK-MOVEMENTS—SIDEWAYS

After moving the neck forward and backward, move it sideways too—stretching it as for as possible towards the right shoulder and then towards the left shoulder alternately.

3. NECK-MOVEMENTS—CIRCULAR

If you are performing this exercise while lying in bed, then sit down and move the neck in a circle—first from left towards the right side, and then from the right towards the left side —a circular movement of the neck.

These exercises starting from 50 times may be increased to 100 times. The whole process may take 12-15 minutes. If

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you move the neck slowly, it may take more time, and if you move it fast, it may take less time.

If these exercises are done regularly, the whole neck will be well-shaped and strengthened. Either the folds will not appear at all, or if they have already appeared, they will either decrease or disappear completely; if fat has accumulated below the chin, it will be trimmed with these exercises. The neck will become smooth, clean and strong.

In the case of the Lady whose photograph has been reproduced here, there was neither fold on her neck nor any bag of fat below her chin even at the age of 70.

Since she had started these exercises at the young age, she retained the youthfulness of her neck in advanced years.

4. NECK-MOVEMENTS—UP AND DOWN—WHILE LYING IN BED

In addition to the three exercises given above, there is also another one given below :

Keep the neck above a pillow and clasp the neck tightly with both palms of hands lying below it. Now raise the head clasped with palms of hands as far it can go upwards and then bring it down towards the pillow.

This exercise which involves three phases—holding the neck tightly, raising the tightened neck above the pillow in tightend position and then bringing it down on the pillow—strengthens different sides of the neck—the right, the left, the forward, the backward and makes the backside of the neck strong.

5. NECK-MOVEMENTS AT ADAM'S APPLE

These exercises mainly aim at preventing formation of folds just below the chin and the neck.

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In old age there emerges a pipe-like shape at adam's apple which starting from the neck descends right upto the point from where the chest begins.

An exercise is being given below to prevent its emergence. Slightly wetting the palm of your right hand and pressing it close to the left-side muscle of the neck stretch it left side as far as it can go, and then do the same stretching towards the right side with the palm of the left hand, that is, with the palm of the left hand stretch the right-side muscle of the neck to the right side and conversely, go on with the palm of the right hand stretch the left side of the muscle of the neck to the left side.

This exercise will stretch the muscles of this pipe-like shape of the neck towards the right and the left side and will either minimise it or completly efface it in the process. If this exercise is started in young age, the pipe-like shaped muscle might not appear at all.

6. MASSAGE OF THE MUSCLES OF THE NECK

Besides the above movements of the neck there is the massage of the neck which keeps it in good shape. Massage of the muscles of the neck can be done according to one's own device.

Sit in a comfortable position. Hold the neck straight. Use both hollows of the palms for the massage of the neck-muscles. First massage the muscle just below the chin. Put the hollows of both the hands under the muscles of the chin and massage upwards, 10-15 times. Then, massage the neck-muscles with both hands from right to left and left to right. Then, massage the muscle of the back of the neck from right to left and left to right. This is the easiest method, but one could device one's own plan. The right thing is to massage the muscles under the chin and the back of the neck in any manner one could plan.

All these exercises meant for making the neck beautiful are useful both for men and women. The credit for the beautiful

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neck of *Madame De Lenclos* and *Sanford Bennett*, even at the age of 70, goes to these exercises.

7. SARVAANGAASAN AND THE NECK

So far we have paid our attention to the shape of the neck by its sixfold rotatory movements—2 forward and backward, 2 sideways and 2 circular, besides the massage of the muscles of the neck. In this connection we cannot but draw attention to *Sarvaangaasan* (shoulderstand pose) which influences the whole body and its functions, the entire human organism. It has profound influence on thyroid gland. This gland is located just below the voice-box (larynx) in the front part of the neck. It has two lobes, each of which is about 4 cms. long and weighing 10 grams. These lie on either side of the wind-pipe and are joined by a narrow band or bridge of tissue which crosses in front of wind-pipe.

In *Sarvaangaasan* one lies down straight on the mat with both legs joined together. Straighten your arms and place them beside the body, palms supporting the buttocks. Raise the legs upwards with the buttocks supported by the palms. Raise the legs so high that the weight of the body, legs, buttocks and chest rests upwards on the neck where the thyroid gland is located. Hold yourself at this point for a minute and repeat this process 4-5 times. This *Aasan* gives exercise to the thyroid gland. Don't do this *Aasan* quickly. The movement of the body during raising and lowering it should be slow, graceful, controlled and without spasm.

Thyroid gland produces a powerful hormone that affects practically every cell in the body. Its main function is to regulate the rate at which food and oxygen are utilized by the various cells of the body. This is known as metabolism.

Neck exercises are mainly three in nature—One of movements, second of massage and the third of the thyroid gland.

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Those men and women who go in for plastic surgery to remove wrinkles and creases, try to look beautiful externally by artificial aids without trying to improve their inner health.

Those who want to retain their youthful look must start taking the exercises described in this book at young age. There is no other way to fulfil their aspiration to look young in advanced years. The creams and powders cannot help them in this direction; when smeared on faces, it makes them look ridiculous; they make them look funny like characters participating in *Ramlila*.

Following into the footsteps of the urban women, even the rural women have started using cosmetics including lip-sticks with which they colour their lips. Is this beauty ? Real beauty lies in making the muscle healthy and strong.

8. EFFECT OF VITAMINS ON SKIN

Vitamin 'A' has a special effect on dermis. Lack of this vitamin causes inner drying up of nose, throat, wind-pipe and mucous-membrane. It also leads to crusts and scales on the skin of arms and thighs. This is why skin-specialists lay a lot of emphasis on the use of Vitamin 'A' to keep the skin healthy, free from dryness and roughness,

Like vitamin 'A', vitamin 'B' also contributes to the glow of the skin. Natural Vitamins are comparatively better than synthetic ones. As natural Vitamins are produced in the life-giving rays of the sun, the air and minerals, they do not cause any allergy. Compared to them, the synthetic Vitamins are produced in artificial atmosphere of laboratories.

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CHAPTER 12

Good Digestion and Youth

I. DIGESTIVE SYSTEM STARTS FROM THE MOUTH

One important condition for longevity of life is good digestion. The body will continue to be rebuilt if what we eat is properly digested and contributes to the growth of new cells. The body will begin to show signs of decline and decay if old cells are not replaced by new ones. The cells which are produced as a result of our digested food continue to be destroyed with lapse of time. The entire process of production and destruction of cells is called metabolism. The production of new cells is called anabolism and the destruction is known as catabolism.

The youth of men depends on the dominance of anabolism over catabolism. In old age there is a reversal of this process.

In any effort to remain young and to delay ageing, it is necessary to ensure acceleration of the anabolic process and to check the catabolic process.

The cells are bound to be destroyed. The question arises whether they are replaced by the new cells or not. If old cells continue to be replaced by new cells, we are treading on the path of youth; if the case is reverse, we are heading towards the old age.

We are all heading from youth to old age. What we have to try with our determination and effort is to reverse the process of ageing as far as possible with the use of exercises mentioned in this book.

Even if this be not possible, at least, we can all try to

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postpone and delay the advent of old age and lead a healthy life.

As described above, cells are created by the food we take. If this food is properly digested, we may conclude that anabolic process is active. If the food remains undigested the catabolic process is in progress.

Why is it what we eat is not properly digested and does not contribute to the creation of the new cells ?

One of the reasons for this phenomenon is that we do not masticate the food properly to enable it to be mixed with the salvia of the mouth which is an important digestive secretion.

There are salivary glands as well as 32 teeth in the mouth. While the teeth grind the food into fine particles, saliva helps in half the digestion of the food in the mouth itself When this half digested food enters the stomach, the digestive juices secreted therein help it in its full digestion and conversion of these particles into a substance easily assimilable, and absorbable into the blood.

The digestive process starts from the mouth itself. While the digestive juices flow spontaneously in the mouth, it is for us to make the food digestible by chewing it with our teeth properly. If we do not exercise our teeth and only swallow our food, the catabolic process will supercede the anabolic one.

The stomach has no teeth—they are only in the mouth. Therefore, not a single particle of food should be allowed to pass the mouth unless it is fully masticated and salivated. The purpose of the tongue is to taste what we eat. We should continue to chew the food till we can taste it. Food should be allowed to pass the mouth and enter food-pipe only when it has been chewed to the extent that it has lost its taste. What, otherwise, is the purpose of having this sense of taste in the mouth at all ?

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When the food, thus masticated and salivated, enters the stomach, the digestive juices also function properly.

Some people take their breakfast in a hurry and run for their offices. They say, they are getting late and must leave early. They fill their stomach with food as if their stomach were a tiffin-carrier.

It is very necessary for the food to be masticated properly in the mouth itself and for this our teeth should be in proper condition.

Just as a carpenter cannot work properly unless his tools are in proper shape, so also a man cannot digest his food properly if he is denied of good teeth with which he has to grind it.

In old-age roots of the teeth decay and are filled with pus leading to foul smell in the mouth and indigestion of food.

When this undigested food mixed with pus enters the stomach, it causes indigestion and also produces gas. When this gas exerts pressure on the diaphragm, it affects the heart.

People generally mistake the increased palpitation for heart-attack. One falls a prey to numberless diseases of the stomach as a result of indigestion of the food. To ensure good digestion and proper functioning of the anabolic process, one should start looking after one's teeth right from the youth. It is wrong to presume that if the teeth decay, they can be replaced by the artificial set which would serve as good a purpose as the natural teeth.

This belief is as wrong as the presumption that a wooden leg can be a good substitute for a natural leg.

There is a world of difference between the wooden and the real leg. The same applies in case of the real and artificial teeth. This, however, does not mean that if the teeth have decayed, they should not be replaced by an artificial set or denture.

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All that is being stressed here is that proper care should be taken of the teeth before they come to decay. They should be properly cleaned in the morning as well as in the evening after meals.

It has been often observed that the teeth of those who take too much of sweets or meat decay faster and are filled with pus.

Compared to the non-vegetarians, the teeth of vegetarians do not decay early. The food particles which deposit in the interstices of the teeth should be removed as they, getting decomposed, mainly contribute to their decay.

It should be properly understood that one of the main conditions of good health is to keep the mouth healthy, teeth being its integral part.

If the mouth has decayed teeth, whatever food passes through it, will be mixed up with the pus coming out of them and carried to the stomach.

Those who do not wash their mouth by gargling with water properly after meals, but just use a handkerchief to brush off its outer surface, and aslo do not clean their teeth at least twice a day as directed, are sowing the seeds of several diseases. A person who wants to retain good health—and herein lies one's youthfulness—cannot afford to have a mouth full of germs, germs which ultimately cause the gradual decline of the digestive system.

In the modern age, most of the people complain of indigestion, but instead of observing the rules of good health, they run after doctors for prescription of medicines which they wrongly think will cure it. Unfortunately, some of the doctors are more interested in making money than cure of the patient. In case of ordinary illnesses, it will improve matters if doctors are paid after the patient is cured.

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Why is food not digested ? It is mainly because people are always in a hurry, they have to open their shops or reach their offices, they have no time to chew the food properly. They just dump it into their stomach very often when they are on the move.

It is not that important what we take as how we take it. The cow and the buffalo take only fodder; but whatever they take, they ruminate it properly at leisure. If the food is dumped into the stomach, without being chewed and salivated, it will definitely result in indigestion. It may also give rise to several other diseases. Some will have constipation, others diarrhoea; some intestinal swelling and others piles.

Any effort to keep young will naturally have to be directed towards removing indigestion. Nature is very harsh. It never pardons those who violate her laws.

Those who violate these laws are punished; there is no scope for any mercy or forgiveness. One can prevent many diseases by keeping digestion in proper state.

If the exercises described in this book are taken regularly, the lost powers can be regained and the old body can be made to look youthful. The elasticity in the body which marks the youthfulness can be either achieved or restored.

Whatever one might do to restore youthfulness, progress would be not only slow but almost negligible so long as the digestive system remains weak.

Mostly, indigestion results from swallowing food in a hurry without chewing it properly and the only remedy lies in devoting enough time to chewing everything we take without hurry and enjoying it as we chew.

Those who save time on eating should be prepared to cut short their valuable life. If we give up this habit of saving time on eating, indigestion will disappear and the life span will increase.

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Besides keeping these instructions in mind and following them strictly, what one needs is to take the following exercises to strengthen the muscles of the abdomen and tone up the digestive system. As the digestive power improves, the body will automatically begin to radiate the glow of youth and vitality.

2. EXERCISE OF THE ABDOMEN

The muscles of the stomach alternately contract and relax. It is this conraction and relaxation of these muscles which helps mix the food particles with digestive juices or gastric secretions.

The digestive process involves two actions: mixing up of saliva with the food in the *Mouth* and the mixing up of the food particles with these digestive juices in the *Stomach*, the latter resulting from the contraction and relaxation of the muscles there.

If the chemical action of the disgestive juices itself were enough for the digestion of food, then it would have been quite possible to tone up the digestive machinery through intake of necessary acids in the form of medicines being advertised by the manufactures.

These medicines, in such a case, should have solved all problems relating to indigestion. But this does not happen. It is because digestive system depends on the strength of the muscles of the abdomen, and for this, their contraction and relaxation is absolutely necessary.

This strength cannot be derived by mere use of medicines. Homoeopathic medicines, are, however, an exception. Unlike allopathic, Ayurvedic or Unani medicines, they are micro and not macro in natnre. This is why we have been suggesting homoeopathic medicines for treatment of various ailments in this book at various places, though we have not neglected to mention some of the tried medicines of other systems also.

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The effect of macro-medicines is temporary. There are only two methods to achieve lasting relief—by chewing the food and by exercising the muscles of the abdomen properly. Medicines have no role to play in either of these methods. It depends purely on our own effort.

Following are the exercises to tone up the digestive system :

3. NYOLI-KRIYAA

Under the chapter '*Exercises For The Body*' we have mentioned the '*Nyoli*' (न्योली) process which removes all the abdominal ailments. Details as to how it is performed are given there.

This process is, however, not easy. It is O. K. for those who can do it, for the rest, it is advisable to do as given under.

4. CONTRACTION AND RELAXATION OF THE ABDOMINAL MUSCLES

Lie down on your back with your head resting on a pillow. Then raise your head forward and let it fall back quietly on the pillow.

This process, will have a stretching effect on abdominal muscles involving them in contraction and relaxation and consequently will strengthen the abdominal muscles, practically doing the same purpose as *Nyoli* (न्योली) does.

While doing it, you may keep stroking the abdomen with your firsts. This stroking may be mild in the beginning and may be stronger later on. It should, however, not be so strong that the abdomen starts aching.

All these processes involving contraction and relaxation strengthen the abdominal muscles and accelerate the flow of blood in that part of the body improving the digestive system.

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5. FRICTION OF THE ABDOMINAL MUSCLES

Another useful exercise for this purpose is as follows :

Fix both the palms of your hands on your abdomen and rub them, back and forth as one does in washing the clothes with a cake of soap. Both these exercises reduce fat on the abdomen and are more effective than the medicines being advertised by their manufacturers.

Some of the points to aid digestion are as follows :

(a) Chew and masticate your food slowly and with cheerfulness. Drink solids and chew liquids is a saying which means that you should chew solid food in a manner that it may become as fine as liquid. As regards liquids they also should not be gulped, they should be taken as if you were masticating to enable the saliva to mix with the liquid which helps digesion.

(b) Strengthen your abdominal muscles through friction and massage.

(c) Those who can do the '*Nyoli*', they should perform it, but those who cannot do it they should contract and relax their abdomen as many times as possible. Contraction and relaxation of abdominal muscles strengthens the inner organs of the abdomen, such as, the liver, the kidneys, the stomach, the intestines etc.

6. FASTING

Fasting has an important place in maintaining digestive system in order. The main purpose of fasting is to give rest to the stomach and tone up the internal organs of the abdomen, particularly the stomach musles.

There is a famous saying which raises some important question and answers them this way :

क : अरुक्, क : अरुक्, क : अरुक् ?
हित मित पित भुक् । स : अरुक्, स : अरुक्, स : अरुक्

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To the question—Who is free from disease, Who is free disease, Who is free from disease ? The answer is : One who takes the food which is wholesome and good for the body (हित); the food which is neither too much nor too little (मित) ; and the food which is easily digestible (पित) ; such an one is free from disease ; such an one is free from disease ; such an one is free from disease. The repetition in the saying is for emphasis of the dictum.

But seldom do people bother about wholesomeness or usefulness of the food ; they only go by its taste. Also instead of taking it in a measured quantity, they fill their belly with it indiscriminately and at odd hours.

This is the reason why 90 per cent of the people are suffering from indigestion manifesting itself in innumerable ways like gastric trouble, constipation, dysentery, diarrhoea, mucous in stool or piles etc.

When a person falls a pery to so many diseases, how can he or she hope to live long ?

To enjoy life, one has to keep this human machinery in good shape.

All this brings to focus the need for fasting. Some people suggest that one should leave the dinner with a little hunger left unsatisfied. One should not feel that one has overstuffed his stomach. It means that one's stomach remains light and does not become too heavy as one finishes one'e meals.

If one carries a burden too heavy for him, he will collapse ; if it is in proportion to his body, he will be able to bear it nicely. This is the idea behind the concept of those who say that one should leave the dining table with a feeling of lightness, not with a feeling that one is overstuffed.

Fasting is the Nature's method of keeping a person healthy. This is the reason why one develops abhorrence for food when one falls sick—both, men or animals,

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We must take advantage of this nature's boon and fast occasionally to prevent sickness. This should be done when one is in health, otherwise to fast when one is ill is no fast as at that time system itself refuses to eat.

If one fasts for 2-3 days during fever or flu, one may be able to overcome these troubles in a short time instead of taking long days. If, however, fasting once or twice a month is undertaken as a matter of routine, it contributes to the maintenance of health.

We take more than we need. Except a few of us who are hard up financially, others seem to be munching something or the other all the time.

Munching something or the other all the time and that too in a hurry makes it difficult for the food to be properly mixed up with the saliva of the mouth or digestive juices of the stomach. The above two causes are responsible for most of our stomach troubles—munching too much all the time and eating in a hurry.

At breakfast or morning meals most of us are heard saying : I'm in a hurry as I've got to go to my office. With such excuses, we seldom give attention to chewing our food properly. Consequently, we cut short our age or drag on this existence full of diseases and miseries. Please take food with a leisure, with a feeling that you have nothing else to do. Every morsel of food should command your full attention.

It is not suggested to leave out *Puris* or *Parothas* or other fried things from your menu. There is no harm in taking what you like. But when you've taken any heavy stuff, it is necessary to give rest to your stomach. It is all the more important in old age to ensure that no undue pressure is exerted on the stomach.

One's span of life is not decreased but increased by taking less food. People do not die by taking less food, they die of taking more food.

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It may be stressed here that medicines advertised for toning up digestive system are no good. The digestive juices can be temporarily stimulated by these medicines but sometimes their reaction is more upsetting and the stomach cannot accept them for long. The constant use of these medicines ultimately renders them ineffective.

It reminds one of a horse who after being continuously flogged refuses to budge an inch. The real remedy to keep the digestive system fit does not lie outside but within the body. If one wants to ensure regular flow of digestive juices, occasional fast is the answer.

Eating is the contraction of the stomach and its relaxation is fasting. Continuous eating and no fasting either shortens the span of life or assails the body with one or the other ailment.

This is the reason why fasting occupies a very important place in all religions of the world. It is considered almost a part of such religions as Hinduism, Jainism and Buddhism, Judaism, Christianity and Islam. The founders of these religions had realized the relationship of fasting with sound health.

Those who depend purely on medicines for the proper state of their stomach must not forget that 'fasting' is the real weapon bestowed to man by Nature for this purpose. It is the cheapest cure of digestive ailments costing not a penny.

The pity of it is that knowing fully well this fact, we ignore it at our own peril, and instead of 'fasting' we indulge in 'feasting'.

Even an animal does not take the most delicious food if it is not hungry. But a man does not resist the temptation when some delicacy is served on the table, even if he is ill and his stomach is not in order.

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However, we do not recommend fasting for longer periods, say for 20 or 25 days.

Long fasting can even cause stomach disorder as it weakens the flow of digestive juices. It is enough to fast for only one or two days in a month.

Fasting, thus, helps in prolonging the life-span by keeping the digestive system in order through proper rest.

Even machinery made of metal needs resting, why then be cruel to this human machinery ?

7. HOMOEOPATHIC MEDICINES

We have been almost constantly expressing ourselves against the use of medicines for treatment. Homoeopathic medicines are, however, an exception as they are almost part of naturopathy.

These medicines not only cure a disease but stimulate the life-tone. We, however, do not mean to suggest that no other system of medicine is effective.

If that were so, how could other systems of medicine have survived for centuries and are continuously flourishing.

But if there is a system in which the element of medicine is minimum and its effectiveness is high, why not try it ? Does not resort to such a system amount to returning to Nature ?

Those who know homoeopathy will tell how this system awakens the life-force within a man without the crude aid of medicines. We shall mention hereunder some of the important Homoeopathic medicines which in their minutest dilutions help the digestive system.

(a) Nux Vomica 30 : This medicine occupies the first place among the medicines being given for stomach disorders. In the modern age when people do not take any exercise and

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keep glued to their chairs throughout the day, and are using all sorts of medicines to keep fit, this medicine is most useful. 30 means 30th potency.

Some of the symptoms of stomach diseases in which this medicine is administered are as follows :

One starts feeling indisposed after half an hour or so of taking food, if not immediately. There is nausea, watering of the mouth and sour taste.

All these symptoms increase in the morning. There is a feeling of sickness within half an hour of taking food. Stomach disorder may also be accompanied by headache. The medicine in 30 potency can be given 2-3 hours before going to bed. This medicine can be repeated for several days.

(b) **Carbo Vegetabilis, 30 :** It is useful when there is a gas in the upper portion of the stomach. When the gas is felt in the intestines, it is the characteristic of *Lycopodium. Carbo* is useful in sour belching of old men ; wind in upper part of the stomach, eructations. Extreme weakness is very marked in its symptoms.

(c) **China 30 :** *Carbo Veg.* and *China* are useful for the stomach but while *Carbo Veg.* is given in general weakness, *China* is given in the weakness resulting particularly from the loss of life-juices. For instance, *China* is useful in the weakness which follows the oozing of blood or the emission of semen. The chief characteristic of *Carbo Veg.* is gas in the upper part of the stomach ; and of *China*, in gas in the entire stomach. In *Carbo*, there is immediate relief, after belching ; in *China* this relief comes late, otherwise the stomach remains tense. While the pressure of the gas mainly remains upwards and there is also breathing trouble in *Carbo*, in *Nux*, this pressure is towards the intestines. Sometimes one feels heaviness in the chest as if food is lying behind the chest. Four pills of *Nux* 30 potency can be given twice a day in such cases.

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(d) **Lycopodium 30** : When the gas is in the upper part of the stomach, the chief drug is *Carbo* ; when it moves in the entire stomach, it is *China* and when there is such complaint in the intestines, *Lyco* is useful. The main characteristic of *China* is that one starts taking food without hunger and takes plenty of it ; *Lyco* patient feels very hungry but when he sits down to eat, he cannot take much. In *Nux*, one feels uneasiness in 30-45 minutes of taking food. This medicine can be given in 30 or 200 potency. After taking *Lycopodium* one should wait for relief without repeating it.

(e) **Pulsatilla, 30** : This medicine removes the trouble which follows consumption of heavy food. Its chief characteristic is that whatever food one takes appears to be stored in chest. The mouth becomes tasteless. There is heaviness in the stomach after one or two hours of meals. According to Hahnemann, this medicine is useful when the stomach disorder results from heavy food like meat, pastry and ice-creams. One of its chief characteristic is that the patient does not feel thirsty. Four or five pills of this medicine in 30 potency can be taken. The Homoeopathic medicine should not be repeated too often. Stop when amelioration starts.

8. USE OF GARLIC

Garlic (लहसन) is very useful for those who cannot take Homoeopathic medicines. In *Ayurveda*, the garlic is named as '*Rason*' (रसोन)—'*Ras*' (रस) stands for digestive juice and '*Oon*' (ऊन) stands for deficiency. Thus, garlic according to this system, removes the deficiency of the digestive juices.

According to *Ayurveda*, there are six digestive juices and, that food is considered to be the best which has a combination of all the six Juices. Garlic, incidently, contains all the six juices except one--that is, sweetness.

Regular consumption of garlic removes gas and strengthens the heart. Two of its pieces can be taken in the morning with

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water or milk. These pieces can be broken and gulped immediately to avoid stinking smell.

It is not taken when one is on Homoeopathic treatment.

9. THE EFFECT OF VITAMIN 'A' AND 'B' ON DIGESTIVE SYSTEM

Some enzymes are secreted from the food passages for proper digestion. Enzymes can help digestion when food is mixed with Vitamin 'A' and 'B'.

In an experiment it has been found that rats, pigeons and dogs whose food is not mixed with Vitamin 'B' lose their appetite. When vitamin 'B' is added to their food, their appetite is restored.

It is, therefore, necessary to take food which is rich in vitamin 'B'. Otherwise, it should be taken in some other form or orally.

Taking too much liquid also generates wind in the stomach. Generally, those who complain of gas in the stomach are advised to drink water or milk with a straw-pipe so that the liquid may go in the stomach gradually and may not take the wind along with the liquid.

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CHAPTER 13

Healthy Liver, Stomach and Youth

1. STRUCTURE OF THE LIVER

In Sanskrit the word for liver is '*Yakrit*' (यकृत्). The Persian word for 'Liver' is '*Jigar*' (जिगर). '*Jigar*' is derived from the Sanskrit word '*Yakrit*'. '*Yakrit*', '*Jigar*', '*Liver*'—all these words are so akin to eaeh other that they seem to have the same philological origin. It is such an important organ of the body that one cannot survive even for 24 hours if it stops functioning, while one can live for several months even after stomach is removed, or after many-a-foot of one's intestines are cut or one's kidney goes out of order. As man possesses only one liver, hence if this organ gets diseased or stops functioning life is impossible. Its importance is such that "if 80 percent of your liver were to be removed, the remaining part will continue to function, and within a few months the liver would have reconstituted itself in its original size." It is such an important link between life and death that every moment proclaims its importance.

Liver is the biggest gland in the body. In fact, it may be rightly described as a set of many glands. It has five lobes which are separated from each other. There are five ligaments to hold it in the abdomen. It is because of these five lobes that we have described it as a collection of glands. Just as other glands are made up of particular type of cells, glands of the liver also are made up of cells called '*Liver-cells*'. These liver-cells are very active. Their function will be described later in detail.

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The liver weighs about three and half or four pounds in a young man.

In the chest-box, are lungs and heart, and in the abdomen are stomach, liver and intestines. There is a layer which separtes the chest and the abdomen. This layer is called Diaphragm about which also we have have mentioned earlier. Liver lies below the right side of diaphragm; part of the liver lies behind the right ribs. It can be felt below the right ribs and towards the abdomen while one is lying. This is why when the liver is examined, the doctor asks the patient to lie down and raise the knees. Since it is one-foot long, it occupies a big-place in the abdomen.

2. STOMACH AND LIVER ARE TWO CHEMICAL LABORATORIES

It is a great mystery how whatever we eat— cereals, vegetables and fruits—turns into living cells though by themselves they are non-living. While it is difficult to unravel this mystery which God alone knows, a part of it can be understood if one learns about the digestive process, particularly, the functioning of the liver.

There are two machines to turn whatever eatables we take, such as, bread, pulses, vegetables and fruits, into blood and they are the stomach and the liver.

The foodgrains, the banana, the apple and *chapatis* cannot be converted into blood directly unless chewed and masticated and made into fine substance.

Gulped into the stomach without being chewed, they would just keep lying there. Before this chewed and masticated food converts into blood, it has to pass through several chemical processes.

All that we eat has to be much changed before it converts

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into blood. This cannot happen without the functions of the stomach and the liver.

We will discuss first the chemical process in the stomach and then in the liver.

3. THE CHEMICAL LABORATORY OF THE STOMACH

Digestion of food takes place at three places—the mouth, the stomach and the intestines.

The long pipe-line which commences from the mouth and ends into intestines is called the Alimentary canal. The food passing through this canal comes into contact with different enzymes aiding its digestion and conversion into blood.

These enzymes are so powerful that they help digest food several times in quantity and heavier than their own weight. The main function of these enzymes is to reduce solid food into fine particles so that it may be easily digested. There are different enzymes for different foods. It is very important to know that different enzymes dissolve different foods. It is not necessary that one enzyme may dissolve all kinds of foods. Different parts of the Alimentary canal secrete different enzymes. It is very important that when food passes through different parts of the Alimentary canal it should carry with it the enzyme secreted by that part of the canal, otherwise, not finely masticated and hurriedly gulped on, the food will pass on without carrying on the enzyme-secretion of that part of the canal and will remain undigested.

Each enzyme has its separate role in the digestive process and none can be missed without losing its share in this process.

It is important to know which enzyme in the mouth, the stomach and the intestine produces what chemical substance and how it contributes to the digestive process.

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(a) **Digestive Process in the Mouth :** The first place of the digestive machinery is the mouth where solid food is masticated and gets mixed with an enzyme produced by the salivary glands of the mouth. If finely chewed and masticated it is on its way to be finally converted into blood.

There are six glands in the mouth which are called salivary glands; two of them are in jaws, two below the tongue and two inside the cheeks.

It is estimated that in total they secrete 1,500 c.c. saliva (3 Pint or 3 to 8 gallons). There is an enzyme called *Ptylin* in this saliva which helps digest *starch* and *carbohydrates.*

The ingredients of the food we take are sweet, sour bitter or saltish. To crush them into small particles to the extent that they lose their individual taste after being mixed up with the enzymes is the main function of the mouth.

If this process is not fully completed in the mouth, we will not be able to derive full benefit of the *ptylin* which aids in digestion of *carbohydrates.*

This process in the mouth makes the food Alkaline.

(b) **Digestive Process in the Stomach :** The food masticated in the mouth is pushed on to the stomach as the muscles of the neck relax. It cannot return because of the contraction of the muscles of the neck after the food reaches the stomach. The stomach is called *Paakaashaya* (पाकाशय) in Sanskrit which means the cooking place.

The door from where the food enters the stomach is called *Cardiac-opening*; and the door from where it goes to intestines after being cooked is called *Pyloric* end. The 5/6th part of the stomach lies on the left side of the abdomen from the dorsal line. A major part of it lies on the left side in the abdomen below the ribs of the chest and the diaphragm. Part of the

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liver overlaps its right side. The lower part of the stomach is about two inches above the naval point.

When the masticated food enters the stomah through the cardiac opening, the second process of its conversion starts. First, this food collects in the upper part of the stomach which is called fundus. It remains there from half an hour to two hours. At this time, either it comes in very little contact with hydrochloric acid or there is no such contact at all.

The glands which produce hydrochloric acid are beyond fundus; they are, in fact, in the middle of the stomach.

During the period it remains in the fundus, it is smeared in Alkaline saliva. When it comes to the middle of the stomach it gets mixed up with the Hydrochloric acid and the gastric juices.

It is here that the main digestive process takes place. Besides the hydrochloric acid, this gastric juice also contains some enzymes which are *Pepsin*, *Rennin* and *Lipose*. About 2000 to 2500 c.c. of gastric juice is secreted by the stomach every day.

Just as the enzyme in the mouth works upon **Carbohydrates,** the *Pepsin* in the stomach acts on **Proteins.** *Rennis* converts *milk* into curds, *Lipose* helps digest **Fats** like ghee, butter etc.

When the food smeared with different enzymes reaches the middle part of the stomach, then follows the process of contraction and relaxation of the muscles of the stomach resulting in churning of the masticated food. This process is similar to the churning of the curd when butter-milk is made. The food contained in the stomach moves round and round. When this process is in progress, gastric juices containing *hydrochloric acid* and such enzymes as *Pepsin*, *Rennis* and *Lipase* begin to secrete from the walls of the stomach.

The secretion is similar to the one which takes place in the mouth when mastication results in the secretion of saliva from salivary glands.

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The inner lining of the stomach has crores of peptic or pyloric glands from which gastric juices keep secreting. One feels surprised over the big quantity of gastric juice—from one over four to one and a half gallons of gastric juice—emantating from these glands. This quantity is generally the tenth part of the body's weight.

All this gastric juice comes from the blood. Whatever quantity of it remains surplus is not wasted but returns to the system and is absorbed in the body.

This whole process is governed by the pneumogastric nerve which comes directly from the brain to the stomach. It is a reflex action of this nerve on the stomach that the gastric juices begin to flow drop by drop from the peptic or pyloric glands and mix up with the masticated food in the stomach. As this process goes on, the food particles become more and more fine. This condition of food is called *Chyme*. The reaction of Chyme is acid though the food while in the mouth was alkaline.

(c) Digestive Process in the Intestine : Mixed thoroughly with the gastric juices, the semi-liquid food in the stomach (Chyme) passes through the pyloric-end into the duodenum by contraction of the muscular walls of the stomach. The movement of contraction and relaxation starting from the stomach and passed on to the small intestines is called *Peristalsis*.

Duodenum is the beginning of the small intestine. Its length is 12 inches. Small intestines are about 20 feet in length lying coiled like the coils of a serpent. Duodenum is a Greek word which has its root in the Sanskrit word '*Dwadash*' (द्वादश) meaning 'Twelve'.

When the food smeared with digestive juices reaches the Duodenum, then some other secretions also set in to make the Carbohydrates, Fats and Proteins of the food further fine and assimilable into the blood. Three digestive secretions meet in the Duodenum, all of which are Alkaline. One digestive juice

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is secreted by Pancreas, second from the Liver and the third is secreted by the glands of the Duodenum itself. The function of all these secretions is to make Hyperacidity in the food ineffective and to neutralize it.

When the food was in the stomach its contents were worked upon by the Hydrochloric acid. If its over-acidity were not neutralized by Alkaline secretions one would suffer from Hyperacidity. Hyper-acidity in the stomach would cause burning sensation in the intestines. Those people who complain of such sensation lack these Alkaline juices in the system. This is why doctors prescribe them lemon juice which, though acidic becomes alkaline when it reaches the stomach.

Pancreas secretes three enzymes—*Trypsin*, *Amylopsin* and *Steapsin*. Trypsin converts proteins into Amino-acids, Amylopsin dissolves carbohydrates. Though carbohydrates are already dissolved by the enzyme (ferment) Ptylin contained in the saliva in the mouth, yet whatever remains undissolved is dissolved by Amylopsin secreted by the pancreas. As regards fat, most of it is dissolved by bile secreted by liver yet the remaining one is dissolved by steapsin secreted by pancreas. Thus. the enzymes (ferments) secreted by the pancreas and [illegible] break the particles of food so much that the different enzymes (ferments) acting upon the proteins, carbohydrates and fats make them so fine that their absorption into blood becomes possible.

But all this process of the functioning of the enzymes (ferments) to convert carbo-hydrates, proteins and fats into absorbable material into blood is directed towards changing these particles into amino-acids. When the food particles are converted into amino-acids by the action of enzymes upon proteins etc. then the resultant material is easily assimilable into blood. There are 22 known amino-acids, ten of which are essentia l to life. All proteins are not important, only [illegible] proteins are important in which ten amino-acids are

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present. Hence, while selecting proteins for food only those have to be selected which contain the ten amino-acids which are essential for life. While dealing with food we shall keep this view-point before us.

Besides the Pancreas and the liver, Duodenum and the *small intestines* secrete other enzymes also. They are: *Sucrose*, *Maltose* and *Lactose*. They convert the carbo-hydrates into *glucose* which can easily be absorbed into blood. The question arises : What is the process by which these food particles made fine by these enzymes are converted into a substance assimilable and, then, by what process they enter the blood ? To understand this proces the following physical structure must be understood.

Towards the beginning of the small intestines there are numberless small pin-like projections which are called *Villus*. Despite their thinness, they have two arteries, one or two veins and a very small muscle.

The function of the *Villi* is to absorb through suction, the liquid food (Chyme) which has already been mixed with juices and enzymes and push it into the receiving canal. The undigested substances are passed into the *large intestines* from where they are thrown out of the body through the *rectum*. If the function of the mouth were properly done by the secretion of its enzyme, if stomach also were duly to secrete its enzymes, but if the besmeared liquid-chyme were not absorbed into the blood by the *villi* of the intestines, then one would remain as hungry as if he had not taken food at all.

The process by which the digested food (Chyme) is absorbed by the *villi* is one of the wonders of the digestive system.

4. THE CHEMICAL LABORATORY OF THE LIVER

As mentioned above, the digestive food-substances are assimilable and nutritious for the body in the duodenum. The

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enzymes which make it so are secreted from the Pancreas, the Liver and the Duodenum itself.

We have already described their uses in the preceding pages. Thus, we saw how the chemical process resulting from the secretion and mixing up of these juices and enzymes emanating from the mouth, the stomach, the pancreas, the liver and the small intestine makes it possible for the food to be converted and absorbed into the blood.

Villi of the small intestines, which are like suction pumps, pass on the absorbed food to a big vein which hands over all this to the liver.

This vein, which performs this work is called *Portal vein* or *Vena porta*.

The portal vein starting from the duodenum, ends up in the liver. It has no other use except to carry the Chyme mixed with several juices and enzymes, from duodenum to the liver.

Now, the liver comes into operation. The liver has five lobes which are created by particular type of cells called the the liver-cells.

When the portal vein passes over the food, besmeared with all the nutrients, to the liver, these liver-cells become very active.

Liver is a type of a chemical laboratory. It helps to convert the food-substance into semi-liquid and stores the nutritive content of the food for future use. When there is deficiency of any of these nutrients, the exact quantity required by the body is provided by the liver from its store.

For instance, the chemical process in the liver converts *glucose* into *glycogen*. This process is called *glycogenesis*. When the level of glucose in the blood falls, the glycogen

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stored in the liver is reconverted into glucose which is required by the body and thus it passes into the blood.

Thus, the liver performs two functions—one of converting the nutritive elements into the food for storage in the liver-cells, and second of supplying them to the body in case of their deficiency at a particular time.

How does liver supply nutritive elements to the body ? Unless these nutritive elements pass into blood, how can they reach the capillaries and unless they reach the capillaries, how can they go to every part of the body ? This has to be explained.

Following is the process through which nutrient-element known as '*Chyme*' is passed over by portal vein to the liver.

Small capillaries carry these nutrients and pour them into the *Inferior Vena Cava.* This vein is described as inferior because it starts from the lower parts of the body. Its main function is to carry the nutrients received from the liver to the right auricle of the heart along with the veinous blood.

We know that the veins carry the impure blood. And it is for the purification of this blood that it is carried to the right auricle of the heart along with the nutrients received from the liver.

Just as the *Inferior Vena Cava* carries the impure blood of the intestines, pancreas and lower parts of the body along with the nutrients from the liver, similarly the *Superior Vena Cava* carries such blood from the organs in the upper part of the body including the head, hands and the chest to the right auricle.

The first vein is called inferior because it brings impure bood from lower parts of the body, the other is called superior because it brings impure blood from the upper parts of the body. Thus, impure blood from the entire body—both its

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upper and lower parts—is accumulated in the right auricle of the heart from where it goes to the lungs for purification.

It may also be noted here that while the inferior vena cava carries the nutrients from the liver along with the impure blood, the superior vena cava carries no nutrients but only carbon dioxide released from body. Thus, we saw how the semi-liquid food in the liver gets mixed up with the impure blood and is carried to the right auricle of the heart.

We have already described in our chapter on Deep Breathing (*Praanaayaam*) how the impure blood along with the nutrients goes to the right auricle of the heart, and from there to the lungs for purification ; after purification there, it returns to the left auricle of the heart and starts circulating in various parts of the body.

We have given in detail the working of the stomach and the liver so that the readers know how these two important organs are inter-related and work in unison. It is impossible to maintain and enjoy youth and good health without keeping these two organs active and in good shape. '*Life depends upon the liver*', goes the saying. Here the word liver has two meanings—'liver' meaning an organ in the abdomen, and also 'liver' in the sense of 'one who lives'.

In the latter sense it will mean that the quality of life that one leads depends on its owner, on how he lives it. One who is keen to retain youth remains youthful and one who thinks and acts old, becomes old.

5. EXERCISES OF THE STOMACH

A clear distinction can be made between the 'stomach' and the 'abdomen'. Stomach is that organ in the body in which food is digested ; abdomen, on the other hand, is a comprehensive term denoting the bigger organ which contains the stomach, the liver, the pancreas, the spleen, the duodenum, the small and large intestines.

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The exercises which we have mentioned earlier for stomach hold good for abdomen too. They are useful for digestive power, liver and intestines.

As has been said earlier 5-6th part of the stomach lies on the left side of the dorsal-line below the diaphragm and large part of it is below the ribs of the chest. A part of it is covered by the liver. Its lower part ends two inches above the naval point. This position of the stomach should be kept in mind while doing exercises.

We are giving below two of the most effective exercises exclusively for the stomach in addition to those given earlier.

(a) Pressing the 'Kaudi' : There are ribs on the left and right side of the chest. The bone connecting them is called *sternum.* The hollow point below the sternum is called 'Kaudi' (कौड़ी). Part of the stomach lies below this hollow. If this hollow is pressed with thumbs of both the hands, the thumbs sink a bit deep into it.

Lying flat on the floor in a relaxed manner, press your thumbs several times into this point to exercise the stomach and to remove the gas. This exercise should be taken along with other exercises, daily, as part of the routine. It is enough to do it for five minutes.

It may be stressed here that if one's stomach is okay, one feels young and if not, one feels old.

(b) Contraction and Relaxation of the Stomach : Contraction and relaxation which is the fundamental principle of all our exercises also holds good for the stomach.

Lie down on the bed or on the floor and keep on contracting and relaxing the muscles of stomach several times. Take the stomach in as far as it is possible towards the vertebra while contracting, and restore it to its natural position while relaxing. This exercise can be done whenever one finds time provided the stomach is empty.

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Doctor Eric Muller says that contraction of any muscle for a week makes it 6 per cent and for eleven weeks, 66 per cent more powerful. This exercise strengthens the muscles of the abdomen and also other organs contained in it such as stomach, liver, intestines, pancreas by increased circulation of blood. For those who cannot perform '*Nyoli*' (न्योली) described earlier, It is a good substitute to keep the waist trim, good shape and free from fat.

This exercise, which is very popular in Europe, can be described as gymnastics of the abdomen.

6. EXERCISES OF THE LIVER

(a) First Exercise of the Liver : Lie on your back with knees raised and feet touching the ground. Liver is situated upon the right side of the abdomen and above the angle of the right hip-bone. It can be felt as one presses below the lower ribs of the right side of the chest. The abdominal muscles are relaxed in this position and can be easily pressed. Press with your fingers below the lower ribs on the right side. One has not only to put pressure on these muscles but also keep moving and agitating them to exercise the liver. It is a sort of massage of the liver as well as its exercise. Press this muscle and then relax. This contraction and relaxation may in the beginning be done 20 times and then it may be increased to 50 times or more.

The effect of this agitation of the organ will be similar to that of riding a trotting horse, an exercise recommended by physicians when liver is sluggish.

(b) Second Exercise of the Liver : Place a pillow below your head and lie upon your right side placing your left hand over the liver. Move forward your head a little and bend the knees towards the chest. In this position abdominal muscles are relaxed and liver inclined slightly forward. Press either by the fingers of the hands or the knuckles of the thumbs well under the ribs massaging and agitating the liver.

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Though both the exercises have almost the same benefits, this change of position affords an opportunity of massaging a fresh area. This exercise can also be increased from 20 to 50.

(c) **Third Exercise of the Liver** : Lie on your left side. In this position the liver will incline slightly forward and the muscles will relax. Clench the right hand and strike with the fist rapidly but lightly over the liver starting with 20 such strokes increasing them to 50. These exercises should be taken only when the liver is in a healthy condition. These exercises are not meant to cure but to prevent liver troubles.

7. HOMOEOPATHIC MEDICINES

(a) **Cheldonium (Mother Tincture)** : It is a prominent liver remedy. Its symptom is that there is pain on touching the liver. There is also pain under inner and lower angle of right scapula. In all liver troubles first of all one thinks of this remedy. It is very useful in jaundice. Ten drops of its tincture can be given in 2 to 4 spoonfuls of luke-warm water twice a day ; or four pills of 6 potency 3 times a day. This remedy dissolves the bile-stone (पित्त पथरी) which after dissolution cures the patient. The patient does not tolerate the smell coming from the kitchen. This is its prominent symptom.

(b) **Carduus Marianus (Mother Tincture)** : If the right side of the liver's lobe is affected, *chelidonium* is given ; but if its left lobe is affected *Carduus Marianus* is effective. It is also useful in case of liver-spots on the face. The liver is on the right side of the abdomen.

(c) **Bryonia** 30 : This medicine is useful when there is stitching pain in the right side of the abdomen, swelling in the liver, pain on the right side on walking and relief on lying on the right side or at least the pain is relieved a little by lying on right side. The main characteristic of **Bryonia** is that there is relief on lying in bed and resting. This

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medicine is particularly useful when there is no pain in the liver while lying on the right side. Since liver is on the right side, the pain is relieved while lying in this posture. This is mainly a remedy for the abdomen and the liver.

(d) **Nux vomica** 30, 200 : It is useful when the liver is affected due to drinking or continuous consumption of heavy spicy foods. It is also useful in liver-troubles resulting from irritability and anger.

(e) **Lycopodium** 30, 200 : While *Chelidonium* is given when there is severe pain in the liver, this medicine is prescribed when the pain is light and the patient wants tea and other hot stuffs.

(f) **Arsenicum album,** 30 : It is used in cases when consumption of excessive quinine is the cause of liver troubles.

(g) **Sulphur** 30 : If this medicine is administered once or twice while treating liver, it helps excite the flow of bile. If one dose of this medicine is given after other medicines, it checks against recurrence of the disease.

(h) **For the benefit of liver and all other abdominal ailments** : Soak one pound of dried *Prunes* in two bottles of rose water. Next day in the morning, make a paste of the prunes in rose water and throw away the stones inside them. Then, make a powder of *Sanai* (सनाय) leaves, petals of *Amritsari rose* (अमृतसरी गुलाब) and *Saunf* (सौंफ) and mix them with the paste of prunes which you already have made in rose water. Add some gur (जागरी-*Jagari*) in this combination and boil it till it takes the shape of *Chyavanpraash* (च्यवन-प्राश) or thick paste. Take one teaspoonful of this paste both in the morning and evening before meals. This preparation aids digestion and prevents stomach-ache, constipation and formation of gas.

This preparation was given by a *Hakim* who used to cure all abdominal cases by it.

This should be taken only when one has some stomach ailment, not otherwise. 'Prune' is available in dry form. Other-

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wise, '*plum*' can be used. *Sanai* (सनाय) clears the bowels. If this medicine results in diarrhoea, one should eliminate *Sanai* leaves.

Dr. Kala's Prescription : *Dr. Kala* was the author's close relative. He used to have stomach and liver complaints. He cured himself by the above prescription. He used to keep the *Chatni* (चटनी) of all these ingredients.

This can be taken when one is suffering from liver trouble or otherwise occasionally as a preventive measure. Following are the ingredients of this *Chatni* along with their quantities :

Liver Prescription

1.	Dry Prunes	1 Pound
2.	Rose water	1 Litre
3.	Rose Leaves (Amritsari)	62.5 grams
4.	Saunf	30 grams
5.	Sanai Leaves	60 grams
6.	Sugar or Gur or Jagari	250 grams

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CHAPTER 14

Healthy and Clean Intestines and Youth

1. THE ANATOMY OF INTESTINES

Someone has rightly said that the age of a person is not measured by his date of birth but by the state of his nervous system, his joints and his intestines.

If uric acid has made a person's muscles, arteries and veins rigid, he has blood pressure or has rheumatic pains, indigestion or constipation, he is old even if his age be only 30.

If he has, on the other hand, by regular exercise and regulated life, made his body flexible, has removed the deposits from his system and rigidity from his joints which move smoothly likely an oiled machine, has kept his digestive system free from any trouble and his intestines clear, he would be considered young even if his age be 80 or more.

Some people, while their physiological age is 30, psychologically behave like mere children as their mental age is much below the normal ; and in other cases, the mental age of children far exceeds their physical age by virtue of their high I.Q. In the same way, some persons become old even at the age of 30 and others though old retain their youth because of the flexibility of their bodies and their attitude in life.

In other words, as there can be a difference between the physiological age and psychological age, in the same manner, there can be difference between the physiological age based upon health and biological age based upon birth. It means that the secret of real youth lies in keeping the cells active. If one

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may avert the rigidity in different organs of the body through any means, he can retain his youth whatever be his biological age. His real age is not how many years have gone over his head, but how his physique behaves. If physically all his organs behave like that of a youngman, he is young, even if numerically he is very much advanced in age.

Experiments carried out by biologists on animals prove that their age is determined by foreign matter retained in the body. For example, some animals were kept confined in a pond of water continuously for some days without the change of water. As the days went by the foreign matter exuded from their bodies accumulated in the pond. At the same time other animals of the same species were kept in another pond of water whose contents were changed every day so that the foreign matter exuded from their bodies in the water was thrown out and they were put in fresh water. The result was that the life of the latter species increased, while the former died an early death. This means that when the foreign matter of the body accumulates in the system and has no let out, the span of age starts decreasing ; when the foreign matter is removed from the body the span of age starts increasing. The secret of lengthening the span of age lies in one's capacity as to how one can keep his bowels clean and the body free from foreign matter.

Most part of the foreign matter is in the form of faecal matter in the intestines. The secret of increasing age is to ensure regular defecation. The largest quantity of human waste is stored in the intestines. We have noted in the chapter on liver that when the food, in the process of digestion, reaches the intestines, the nutrients are absorbed into the blood by the body and the waste is pushed out in the form of faeces. Irregular movement of the bowels or constipation is the greatest enemy of man and leads one to the grave earlier, as nothing else does.

It is important to know the process as to how the faecal matter is pushed out of the system. After the stomach and the

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duodenum there are two other organs in the abdomen—small intestine and the large intestine.

After the nourishing material has been absorbed, the waste faecal matter, passes on to the small and large intestines. Both of these intestines, if straightened, will be 50 feet long as they occupy a very large part of the abdomen. We shall deal here with small and large intestines as their part in the maintenance of health, and therefore of youthfulness, is very great.

2. SMALL INTESTINE

The small intestine is about 20 feet long. The first 12 inches of this intestine is called *duodenum*. Both the digested and undigested food from the stomach comes into it. It is here that bile comes from the bile-duct, pancreatic secretion from the pancreas and alkaline secretion from the inner walls of the duodenum itself. All these secretions together dissolve the food particles and pass them on through *Vena Porta* to the liver so that the nutrient liquid mixed with veinous blood may go the right chamber of the heart. From there it goes to the lungs for purification, and returns to the heart after purification for circulation throughout the body.

In this mannor, the substantial part of the food turns into the blood and unsubstantial part of it slips on further in the form of undigestible and unabsorbable matter.

First its entry is into the small intestine which rests in the abdomen in serpent-like coils and pushes the undigestible and unabsorbable matter further on. This process of gradually pushing on the waste matter is called '*Peristalsis*'.

Just as an earthworm pushes itself further inch by inch by lifting its middle part and pushing forward, similarly the intestine through paristaltic movement pushes the waste matter out.

Constipation results when the intestine fails to perform this function of peristalsis or some weakness slows down its

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activity. Exercises of the intestines aim at preventing their inactivity. It is their regular exercise that keeps the intestines active.

3. LARGE INTESTINE

The small intestine meets the large intestine in the lower part of the right side of the abdomen after following a somewhat serpentine path in coils.

At the starting point of the large intestine is a blind pouch which is connected with an appendix called *vermiform appendix.*

The utility of this blind pouch and the connected vermiform appendix is not known yet. But when there is a swelling in this vermiform appendix, one suffers from severe pain. This swelling is known as *appendicitis.*

According to the popular belief if the seeds of guava, orange, lemon or grapes enter this appendix, they cause this swelling. However, this belief is misleading. Swelling in vermiform appendix, may result from swelling in the intestines. Therefore, the best way to prevent this swelling is to keep the intestines in proper shape.

There are three parts of the large intestine which are called the ascending colon, the transverse colon and the descending colon. There is a difference in the colon and the ractum. Colon is the name given to the three parts of the large intestine. Rectum is the place from where faeces are ejected.

Pile occurs in the rectum. There are some veins in the rectum which swell as a result of constipation or excessive consumption of spices, sweets, want of exercise and alcoholic drinks or purgatives.

In case of women this swelling may be caused by pressure on the lower part of the body during pregnancy. These swelled veins are known as piles.

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They can be of two types—inner or outer. There is bleeding from the inner blood tumor (Hemorroid) which is called bleeding pile. The outer tumor (*Massaa*—मस्सा) does not bleed but causes pain.

One very important fact about the intestines is that by nature they have been made short for meat eating animals because it does not take them long time to digest food ; in case of human beings, whom nature wanted to be vegetarians, such intestines are long because they take longer time to digest.

If a person, destined to be a vegetarian, takes to meat eating, food digestion will take shorter time but the waste matter will remain stuck up in the intestines for longer period and create foul smell. This is the reason why vegetarians suffer less from instetinal diseases compared to the non-vegetarians. Intestines of human beings are longer than those of meat-eating animals, but if they resort to meat-eating the residue will stay longer in their a intestines and will create foul smell, constipation and other complications.

4. TAPE WORMS IN THE INTESTINES

Some people have tape-worms in their intestines. It is necessary to know about these worms because they suck up all the juices and eat away most of the consumed food. These tape-worms have suckers in their heads which they hook in the intestines and suck the nourishment leaving very little for the patient.

The worms have no separate organs. They suck the juices of the man's body through these suckers.

Mostly tape-worms are found in the intestines of those who eat pig's meat.

From where do the tape-worms enter the intestines of human beings ? The eggs of tape-worms come out through stools of the person having them in the intestines. Pigs eat

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these stools containing eggs and these eggs give birth to tape-worms in the intestines. From intestines, offsprings of these worms spread to other parts of the body. Now, if someone eats the meat of the pigs which is not properly cooked, these eggs also enter his intestines and give birth to these worms. These worms can be 30 feet long. If the stool-test reveals even parts of these worms, it is a sign of their presence in the intestines.

The patient having these worms feels extremely hungry but his body goes on becoming thinner and thinner.

There is hardly any blood left in his body. There is a pain in the intestines. He feels depressed all the time.

5. EXERCISES FOR THE INTESTINES

The exercises of the abdomen previously mentioned are the exercises for the intestines also to keep them fit and active. The exercises given in the preceding chapter hold good for the intestines too. The '*Nyoli*' is particularly good to strengthen the intestines.

6. SOME WAYS TO REMOVE CONSTIPATION

(a) **Ganesh Kriyaa** : Intestines are a sort of a gutter. Just as there is foul smell in the gutter unless it is cleaned periodically, so also gases are produced in the intestines unless they are cleaned regularly. These gases manifest themselves in the form of belching or pain in the stomach.

As mentioned earlier, the faecal waste should not be allowed to accumulate in the body if one wants to increase one's age. Some *Yogis* do what is known as the '*Ganesh Kriyaa*', to keep their intestines clean.

If after movement of bowels, one feels light and has the feeling that nothing is left behind, there is no need to do anything. But if, even after motion, one feels that some waste is still lying at the end of the colon, one should put one's

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large finger in the colon through the rectum to activate it. This process known as the '*Ganesh Kriyaa*' stimulates the peristaltic movement of the intestines which pushes the stool onwards and outwords.

This process brings out all the waste accumulated in the colon and cleans the intestines, making the stomach light and removing heaviness from the abdomen and the head, if any.

Those who make use of paper to clean the rectum are mistaken. Profuse water should be used to wash the rectum. The Indian custom of washing the rectum with a large quantity of water is very healthy. If one does not like '*Ganesh Kriyaa*', one may make use of Anema.

(b) Anema : Anema is another form of the *Ganesh Kriyaa*'. Anema also helps in activating the peristaltic movement of the bowels.

In anema, lukewarm water is allowed to go into the colon and retained for a few minutes there. It strengthens the intestines and prevents constipation.

Anema cleans the intestines. But the water taken reaches only a part of the colon. It does not reach it fully. But when the waste accumulated in the lower part of colon is ejected, the waste in upper part also finds it way to get out. Besides, Anema also helps in activating the peristaltic movement of the intestine.

The heaviness in the stomach can be attributed to the accumulation of this waste. It is, therefore, very important to keep the colon free from waste, even for longevity. But anema should not become a habit.

(c) Taking Hot Water Mixed with Salt Early in the Morning : *Dr. E. V. Mc Colom*, author of the '*American doctor's Odyssey*', says that drinking of a little hot water mixed with

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two teaspoonful of salt taken in empty stomach cleans the intestines within half an hour.

Hotter the water, more effective it is in washing the intestines. One should not hurry in taking morning breakfast unless the intestines are cleaned.

Unlike the pure water, the salt-mixed water is not absorbed and reaches the large intestine and washes it.

(d) **Guava** (अमरूद) : There is no better fruit than guava in keeping the intestines clean. It can remove the toughest constipation.

(e) **Triphalaa** : *Triphalaa* is a combination of '*Harad*' (हरड़), '*Baheda*' (बहेड़ा) and *Anwalla* (आंवला). It is called *Triphalaa* (त्रिफला). Ratio of *Triphalaa*-powder should be 1 : 2 : 4.

A table teaspoonful of this powder should be taken along with milk or water in the night before going to bed. '*Triphalaa*' (त्रिफला) means the three fruits—'*Harad*' (हरड़) is a fruit, '*Baheda*' (बहेड़ा) is also a fruit and '*Anwala*' (आंवला) is also a fruit.

(f) **Sat-Isabgol** : This is an outer covering removed from the seeds of *Isabgol*. One big tea-spoon of it can be taken with milk or water before retiring in the night. It will facilitate slipping of the hard stool with ease. In diarrhoea also this can be taken.

(g) **An Aasan** : Drink two or three glasses of water. After 5 minutes, sit on your tows with heels raised and buttocks resting on heels with both hands placed in front on the floor. Now contract and relax the rectum as many times as you can. This will accelerate the peristaltic movement of the intestines and you will feel the urge to pass stool. One may try this pose even without drinking water. It is also said that contraction and relaxation of rectal muscle, that is, squeezing the

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rectal muscle can be carried on whenever time is available. This process is conducive to health.

7. HOMOEOPATHIC MEDICINES

(a) **Nux Vomica, 30** : It is useful in constipation after use of purgatives or intake of allopathic drugs over a long period. It is also effective when constipation results from sitting for long spells of time, lack of exercise, nervousness of the entire body or weakness in the peristaltic movements of intestines. Constipation with frequent ineffectual urging, incomplete and unsatisfactory stool. If there is no urge to stool, *Nux* is not the remedy. It is more effective when given in higher potency, say in 200 potency. One feels the urge two or three times.

(b) **Hydrastis, Mother Tincture** : According to *Dr. Huges*, this medicine is more effective than *Nux* in curing constipation. It is particularly useful when constipation follows use of purgatives. One or two drops of its tincture should be mixed in water and taken before morning breakfast everyday.

(c) **Anacardium, 30** : It is given when rectum appears plugged up ; even soft stool passes with difficulty. Bowels are inactive ; stool comes in instalments.

The main difference between the *Nux* and *Anacardium* patients is that while the former have sedentary habits, irritable temper, the latter are not this type,

Both of them, however, have ineffective urge to stool.

(d) **Sulphur, 30 and, Nux, 30** : These two medicines are given alternately—*Sulphur* before 10 A.M. and *Nux* three hours before going to bed at night.

(e) **Alumina, 30** : This medicine is very effective if constipation results from extreme dryness in the intestines.

Inactivity of the intestines and weakness in the peristaltic movement are other symptoms of this medicine. There is no

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desire to stool. Stool is hard, dry and knotty. Even a soft stool is passed with difficulty as in case of *Anacardium* patients.

When the stool is hard and knotty, even *Natrum Mur* 30 or *Magnesia* 30 is useful.

(f) **Brynia, 30 :** Stool is hard, dry as if burnt ; seems too large. It is because of dryness of the intestines. There is no urge of stool.

There is also dryness of intestines in *Alumina* patients but they show no urge to stool.

Bryonia and *Nux Vomica* can be given alternatively in case of chronic constipation.

(g) **Silicea, 30 :** It is useful when stool ejects with difficulty ; when partly expelled, recedes again.

(h) **Natrum Muir, 30 : and Opium, 30 :** Combination of 4 pills each of these two medicines is effective in chronic cases of constipation.

6. PILES

(a) **Esculus, Tincture or 3 Potency :** It is useful in case there is a swelling in the veins due to weight on the stomach and there is pain in the back.

(b) **Nux Vomica, 30 And Sulphur, 30 :** *Dr. Hughes* suggests that these medicines, given alternately, are useful in piles. Four pills of *Sulphur* 30 should be administered in the morning before 10 A. M. and 4 pills of *Nux* 30 three hours before going to bed. They should be stopped when there is a relief.

(c) **Collinsonia, Tincture or 3 :** *Dr. Burt* says that 10 drops of the mother tincture of this drug should be given in lukewarm water twice (thrice in a day in painful bleeding piles). It is also specially effective for women-patients of piles during pregnancy.

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(d) Hamamelis, Tincture or 6 : *Dr. Hughes* says this drug occupies a very important place in curing piles. It is recommended in bleeding piles, particularly when bleeding is profuse. Other symptoms are ; Rectum cannot tolerate any touch. Hughes has found this drug effective when given in 2nd potency. The fomentation with water—hot or cold—mixed with the mother tincture is also effective in reducing swelling on pain.

7. TAPE-WORMS AND OTHER WORMS

(a) Pumpkin Seeds—Powder : Take 2 ounces of pumpkin seeds-powder, mixed with honey. Take nothing for next 24 hours. It should be followed by consumption of 2 ounces or 4 table spoonful of castor oil. Take anema after 3-4 hours. Tape worms will be out. It should be confirmed that the head of the tape-worms has been removed because they grasp the intestines with hooks in their mouth.

(b) Chelone, Mother Tincture : Five drops of this medicine taken 2-3 times a day are helpful for removing round and thread worms.

(c) Cina, 3 : Useful for children suffering from tiny little worms known as oxyure which trouble little babies. These go in and out of the anus and set up irritation. It is a powerful remedy for the elimination of round worms also. It has become a household remedy. Characteristic symptoms are ravenous hunger and constant picking and boring of nose.

8. THE EFFECT OF VITAMIN 'B'-I ON INTESTINES

The muscles of the body become loose because of lack of vitamin 'B'-1. Intestines are also a type of muscles. This also leads to constipation. Vitamin B-1 is, therefore, good in removing constipation.

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The percentage of vitamin 'B'-1 in some of the ingredients given below is as follows :

(a) In a table tea spoonful of Brewer's yeast :	39 per cent
(b) In half a cup of peas :	38 per cent
(c) In sprouted wheat :	35 per cent
(d) In half a cup of soyabean floor :	27.5 per cent
(e) In half a cup of unpolished rice :	16.5 per cent
(f) In half a cup of skimmed milk :	10.5 per cent
(g) In Egg :	2.5 per cent
(h) And in meats :	4 to 5 per cent

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CHAPTER 15

Falling of Hair in Old age

1. THE IMPORTANCE OF HAIR

Just as one of the distinguishing feature of birds is their wings, one of the distinguishing features of bi-peds and quadrupeds is their hair.

Why do bi-peds and quadrupeds, who feed their children on milk, have hair ?

There are several reasons for this phenomenon. Some of them are given below :

The main purpose of hair is to preserve the heat of the body. In hot countries hair also protect the being from the heat of the sun. The long hair on different limbs may have a special purpose too. For instance, long hair on the neck of some animals help them defend themselves from the sharp teeth of their enemies. Hair on tails help others keep flies and mosquitoes away. The long hair of hedge-hog, which are like thorns serve as defence against enemies. The animal is armed with self-contained prickly defensive, long thorns brisling with fortification on all sides. These prickly long hair prick the attackers.

The crown of the peacock is an open invitation to the pea-hen. Among human beingss, the long hair of the women attract the men-folk. In some beings, hair also serve the purpose of the skin. There are nerves in the moustache of the cats that help them have the feel of everything they touch.

All this drives home the point that hair are not useless though their utility may differ in different beings.

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Everyone knows that men are particularly attracted towards the hair of the women. Baldness is considered as one of the characteristics of men's ugliness. Men, no less than women, have anxiety for preserving their long hair and preventing their fall.

Just as there are reasons for the growth of hair, there are also reasons for their fall.

There are endocrine glands in the body which secrete hormones keeping it active. If this secretion is more or less than required by the body, its growth becomes lopsided and haphazard. For instance, there is a thyroid gland in the neck which controls metabolism and contributes to the body's growth. Hormones in the pituitary glands in the skull control blood-pressure. Likewise, hormones in sex glands determine the differences between men and women.

Hormones in both the sexes have different functions to perform. For instance, while such hormones are responsible for growth of moustache and beard in men, they prevent their growth among women. The reasons why such hormones function differently in both the sexes is difficult to determine, but it is clear that difference in the growth of hair in men and women can be attributed to their hormones.

The rate of growth of hair has been measured. It is now known that they increase by half an inch every month. Their growth slows down during the night but increases during the day. The rate of growth reaches its peak between 10 to 11 O' clock in the morning and 4 to 6′ Oclock in the evening.

If these hair are kept in a straight line they will measure 37 miles in an year. This total growth can be calculated as 1.2 inches per minute. This is the significance of hair. The absence of hair, less hair or continuous fall of hair becomes a problem for men and women.

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2. REASONS FOR LESS HAIR—THEIR FALL OR BALDNESS

Hair, bones and nails are made up of the same element. There are three reasons for less hair, their fall or baldness :

(a) The deficiency of nutrients in the roots of the hair,

(b) The presence of dandruff, itching, germs, parasites due to some diseases like typhoid, syphilis, influenza etc.

(c) Deficiency due to hereditary reasons.

Let us discuss each factor separately :

(a) Lack Of Nutrients : Every single hair of the head is like a tube which is served with nutrients through fine capillaries.

The hair become old the same way as does the body. The life-span of hair is from 2 to 6 years. They fall at the end of this period. New hair grow again from the roots of the old ones. As the cells of the body die and are replaced by new cells, so also old hair are replaced by the new ones.

What is important to ensure is that when hair fall, their roots do not. Roots of hiar are called 'hair-follicles'. Reasons which cause the decay of follicles should be avoided. Baldness is the result of the decay or death of the follicles. Several factors are responsible for baldness, some of them are as follows :

Wearing a tight cap or *Pagari*, excessive indulgence in sex and weakness of those capillaries having direct connection with hair follicles, obstruction in blood circulation, accumulation of crusts in the skull or the presence of louse (जूं) or other parasites and failure to remove the hair which are dead.

(b) Typhoid, Influenza, Syphillis Etc. : There are some patients who complain of lack of growth of hair or their fall following affliction with some infectious or contagious diseases

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like typhoid, syphilis or flu. Such patients get normal growth of their hair after restoration to full health.

The exercises given here also help in removing or preventing such complaints. The reason why such complaints are associated with such diseases is that poison accumulated in the body during their affliction reaches the roots (follicles) of their hair.

(c) **Deficiency Due to Hereditary Reasons :** Sometimes baldness results from the hereditary factors. In such cases, the treatment is difficult but, taken over a long period, may prove effective.

3. EXERCISES FOR HAIR

(a) **Friction of the Scalp :** One of the surest ways to prevent baldness is to strengthen the hair-follicles which get nourishment through capillaries. If capillaries carry sufficient blood to the roots of the hair, the fallen hair are easily replaced by new ones. This is the way the hair grow. Hair massage or friction which is most effective for this purpose may, in the beginning, result in the fall of hair. But which hair fall ? Only those which have already been separated from their roots.

So long as these uprooted hair remain stuck up there, the new hair would not come in their place. One should not worry when massage or friction removes such hair because this only facilitates the growth of new hair. If the old hair are not removed, new will not come.

The massage or friction of the hair stimulates the circulation of the blood which, in turn, ensures the flow of nutrients through capillaries towards the hair-cells and facilitates their growth,

But there is a special method to do the hair-friction. As mentioned earlier, rub the scalp with a brush or put your fingers on the scalp and move them in a circle with a little pressure. It is not enough to massage the outer surface of the scalp.

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Below the epiderm are muscles and capillaries and the friction or the massage should be such that its impact is felt by them. More the outer surface of the scalp is massaged, its inner surface will feel its impact.

(b) Pulling the Hair : In addition to rubbing the hair with a brush, the second exercise consists of pulling the hair with your fingers.

This pulling of hair draws out the epiderm a little, increasing the blood circulation. One should pull one's hair for a few seconds, at least twice a day.

Dr. Kulranjan Mukherjee in his book on '*Domestic Treatment of Chronic Diseases*' has suggested this method. He says that regular practice of this method results in pulling up of the skin on the skull like the skin of a cat when it swells up. When the skin can be pulled up like this, then we think that the friction of the skull has properly been done.

(c) Washing Head with Cold and Hot Water : To wash the head with cold and hot water, alternately, produces the effect of a tonic on the hair of the head.

The underlying principle of this method is that it increases the circulation of the blood activating the roots of the hair-cells. The water should not be either too hot or too cold but such as may be tolerated.

If one does not like bathing head like this, one might soak a towel in hot and cold water, alternately, and rub the head with it.

This must be done at least five times. It may be done upto ten times without any harm This process activates the hair-cells unless they are dead.

4. DANDRUFF

What is dandruff ? It is the accumulation of crusts on the outer surface of the scalp. The crusts appear because the per-

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spiration and the secretion from the glands which appear on the scalp are not washed.

Thus the popular belief that dandruff is caused by bathing one's head is wrong; on the contrary, it is caused by not bathing one's head.

5. BOIL (A FURUNCLE)

Although mostly homoeopathic medicines have been prescribed in this book, one *Ayurvedic* preparation which I have found very effective in cases of boils due to uprooting of hair of which I have been a frequent victim because I have been massaging my body everyday for several years, is being given below.

The ingredients of this preparation are '*Raal*' (*3 Chhatanks*), *Neelaa Thothaa* (a small quantity) and *Sange Jarahat* or *Silkhari*, (*3 chhatanks*). All of them should be crushed and then their powder may be mixed with *Mustard oil* ((सरसों का तेल)). This mixture should be put in a utensil and boiled for about 2 hours. When the foam on the surface disappears and only pure black liquid remains, the utensil should be removed from stove or gas as the case may be, and kept till it automatically becomes little thick like paste. This is good for all types of boils, particularly in cases of those boils resulting from uprooting of hair.

The way to apply it is to put it on a piece of cotton with small hole into it, and stick it to the affected area. It will inflame and suppurate the boil bringing out all the pus in due course. The efficacy of this preparation has been tested by me in my own case. You have not to change the sticking plaster ; when ripe press the boil from side to enable the pus to pull out. It will automatically heal.

6. HOMOEOPATHIC MEDICINES

(a) **Thuja-Mother Tincture**, 30 : In case of fall of hair 10 to 15 drops of this medicine can be put in a cup full of water

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and applied to the roots of the hair. 4 or 5 pills of 30 potency can also be taken orally.

(b) Phosphorus, 30 and Calcaria Phos, 6x : If the hair fall in bunches, take *Phosphorus* 30, for three days in the morning and five pills of *Calcaria Phos* 6x twice a day for fifteen days. After three days, take only 5 pills of *Calcaria Phos* 6x for 15 days. *Acid Phos* can also be taken in case of hair falling due to weakness, particularly, after some ailment.

(c) Arnica Hair Oil : *Arnica-hair-oil*, available at the chemist's shop selling homoeopathic drugs, is also very useful.

(d) Vinegar : Though it is not a homoeopathic preparation, it has been found quite useful in such cases. Four table tea-spoonful of *Vinegar* can be put in a bucket of water and hair bathed with it. After they are dried up, apply only Vinegar. The hair will stop falling.

(e) A Preparation of Carbolic Acid : If there is too much of itching in the hair and there is suspicion of the presence of louse or germs, then put a little of carbolic acid in a pint of water and wash your hair with it. Bathing with water of this preparation for 2 weeks will not only help strengthen the roots of the hair for which it will act as a tonic, but will also remove all lice. The hair will start growing properly.

(f) An hair oil : Ingredients of an hair-oil preparation are being given below which help maintain the black texture of the hair.

This prescription was given by a person who attributed the black colour of his hair to this oil even at the age of 70. It is not a colouring oil but an oil which gives strength to the roots of the hair.

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Following are the ingredients of the oil :

(1) Agar (अगर)	(20 gms)
(2) Tagar (तगर)	(20 gms)
(3) Powder of Chandan (चन्दन का बुरादा)	(20 gms)
(4) Harar ka Chhilka (हरड़ का छिलका)	(20 gms)
(5) Bahede ka Chhilka (बहेड़े का छिलका)	(20 gms)
(6) Nagar motha (नागर मोथा)	(20 gms)
(7) Kachoor (कचूर)	(20 gms)
(8) Khapaat (खपाट)	(20 gms)
(9) Lodhar (लोधर)	(20 gms)
(10) Majith (मजीठ)	(20 gms)
(11) Baavachi (बावची)	(20 gms)
(12) Padmaakh (पद्माख)	(20 gms)
(13) Anantmool (अनन्त मूल)	(20 gms)
(14) Jataamasi (जटामासी)	(20 gms)
(15) Loh bhasm (लोह भस्म)	(2 ratti)
(16) Fresh bhangre ka Ras (ताजे भांगरे का रस)	(500 gms)
(17) Fresh hari Brahmi (ताजी हरी ब्राह्मी)	(500 gms)
(18) Hare mahuey ka ras (हरे महुये का रस)	(500 gms)
(19) Hare anvaley ka ras (हरे आंवले का रस)	(500 gms)
(20) Hari mehandi ka ras (हरी मेंहदी का रस)	(500 gms)
(21) Fresh leaves of rose (गुलाब के ताजे पत्ते)	(500 gms)
(22) Hara dhaniya (हरा धनिया)	(500 gms)
(23) Badam giri power (बादाम की गिरी का पौडर)	(100 gms)

Pour all these ingredients into a polished pan and keep them covered this way throughout the night.

Next day mix all the above medicines in 4 kg of ground-nut oil and boil it on stove or gas. After all the water dries up and the petals of the rose become brittle, then put off the gas or the stove and remove the pan.

Fill it in bottles after filtering it with fine cloth and it is ready for use.

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CHAPTER 16

Problems of the Eyes in Old Age

I did not mention the eyes while suggesting exercises for various limbs.

Since eyes occupy a very important place in the body, I wanted to devote a separate chapter to it. When all the senses of the body cease to work, it is called death. When one of the very important senses stops functioning, one may be said to be nearing death. It is a misfortune to lose the power of hearing, but it is a greater misfortune to lose the eye-sight.

If one puts all the wealth of the world on one side and the eyes on the other, certainly one would prefer the latter being more precious. How can the power of the eyes be retained ?

It is our experience that muscles of the body are strengthened by their exercise. The question arises : would not the eye-muscles also be strengthened likewise by their exercise ? The answar is definitely in the affirmative. How can we exercise the muscles of the eyes ?

There are 6 muscles which control the movements of the eye-balls. The main function of the exercise of each muscle of the eyes is to strengthen the eye by its movement. These muscles are :

(a) The first muscle controls the eye-balls from upwards,
(b) The second muscle controls the eye-balls from downwards,
(c) The third muscle can stretch or move eye-balls to the right side,
(d) The fourth muscle can stretch or move the eye-balls to the left side,

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(e) The fifth muscle can rotate the eye-balls in circle from left to right.

(f) The sixth muscle can rotate the eye-balls in circle from right to left.

I. EXERCISE OF THE EYE-MUSCLES

One should remember that as other muscles of the body are strengthened by exercise, similarly, eye-balls, and for that matter, eyes also are strengthened by the exercise of the muscles of the eyes. The best way to exercise the muscles of the eyes is as follows :

Sit erect or lie down and move the eye-balls upward and downward alternately. This is vertical position.

While moving the eye-balls upward, concentrate your eyes on something above you and moving it downward try to see something below you. While seeing above or below, you should try to keep your neck erect.

Then, without moving the neck, concentrate your eyes on something to your left, and to the right, alternately, which will automatically move the eye-balls sideways giving exercise to the muscles of the eye-balls. This is horizontal position— parallel to the earth.

Then, move the eye-balls in a diagonal direction, first from the right and then from the left side.

This should be followed by moving the eyes in a circle, first from the right to left and then from the left to right. This is circular position. I do all these eye-exercises 100 times.

All these exercises if performed one hundred times will take nearly fifteen minutes. After these exercises close your eyes with your palms shutting them out from all light and ensuring complete darkness. This will soothe the eye-muscles as well as the nerves of the eyes. Keep this position for five minutes.

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While the earlier exercises result in the contraction of the eyes, this palming involves their relaxation.

While doing these eye exercises, it is advisable to keep stroking the temples. This stroking produces a marvellous effect on the health of the eyes. Main reason for this is that it enhances the blood supply to the muscles connected with eyes which, in turn, keeps the eyes in proper shape.

These exercises not only strengthen the muscles but also enable them to carry nutrients to the eyes. One thing to be borne in mind while doing these exercises is that eyes should not be allowed to be strained on any account.

Instead of doing these exercises 100 times each, as I do, they can be done for lesser time, and then gradually the time may be increased.

2. SHEERSHAASAN

In addition to the exercises given above, *Sheershaasan* (शीर्षासन) is also recommended for strengthening the eyes as it has been found effective for this purpose.

Sheershaasan, when done for one or two minutes, increases the circulation of the blood in the eyes, nourishing the eye-muscles. *Sheershaasan* should not be done for long spells of time.

After *Sheershaasan*, one should immediately stand erect and remain in this position for 2-3 minutes so that the blood in the eyes comes to its normal position.

3. CATARACT

The main complaint in old age is that of cataract. What is cataract (मोतिया) ?

In the structure of the eye first we see the transparent, white anterior part of the eye-ball. This white portion of the eye-ball is called *Cornia*. In this there is a coloured membrane of the anterior part of the eye, a round black ball called the *Iris*. In Iris there is a round aperture which is called *Pupil*. Behind this pupil there is an interior part of the eye where there is

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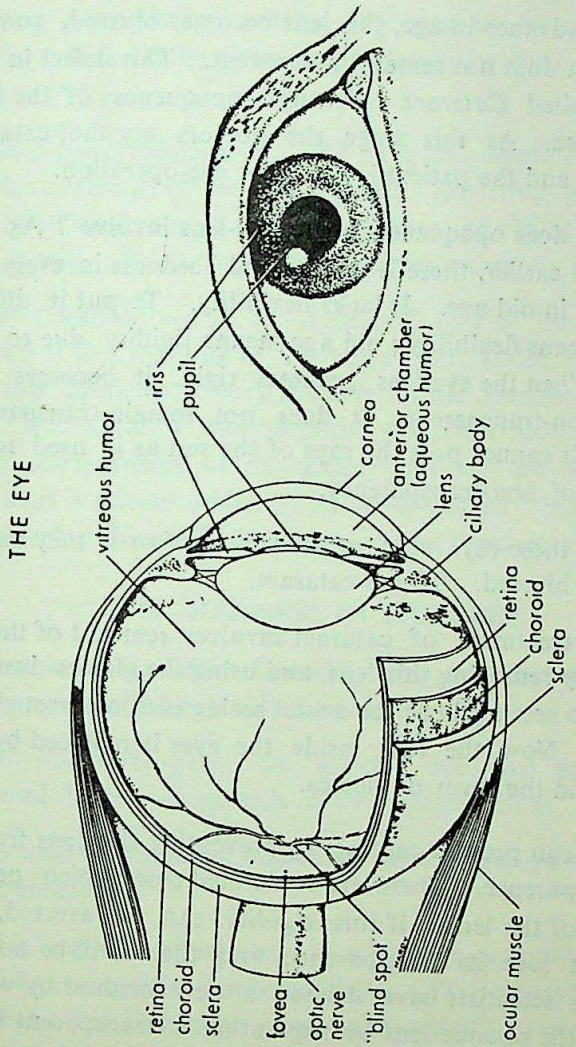
a *lens* which is fixed to the interior part. Behind the lens there is *Retina*. The diagram in this page shows all these :

The rays of sun carrying the image of the external object pass through the lens and the retina receives the image and it is transmitted to the brain-centres and this we call *seeing*. The whole process of seeing depends upon the transparency of the lens.



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Just as the image is formed on the plate inside the camera through the lens, so also the image of any object is focussed on the retina through this lens of the eyes.

Just as, if the lens in camera is not good, a clear image cannot be formed, in the same way, quality of the image on retina is determined by the quality of the eye-lens.

With advance in age, this lens becomes blurred, some times opaque. It does not remain transparent. This defect in the eye-lens is called *Cataract.* Through opaqueness of the lens one cannot see. At this stage the doctors say that cataract has matured, and the patient is ready for eye-operation.

What does opaqueness of the eye-lens involve ? As we have explained earlier, there is rigidity and hardness in every part of the body in old age. It lacks flexibility. To put it differently, youth means flexibility ; old age means rigidity due to ossification. When the eye lens becomes rigid, it becomes opaque, hard, non-transparent. It does not remain transparent any more. It cannot pass the rays of the sun as it used to earlier because of non-transparency.

Now these rays stop at the lens itself or if they pass at all, they are blurred. This is cataract.

The treatment of cataract involves removal of the opaque lens. By removing this lens, and using the glasses instead, one begins to see again as the actual seeing is done through healthy Retina. Now the lens inside the eyes is replaced by the lens outside in the form of glasses.

One can prevent cataract by preventing this lens from losing its transparence. There are some medicines which prevent the rigidity of the lens. If this rigidity can be averted, the lens will not lose its transparence and there will be no cataract. Russian scientists have devised a new method by which they replace the opaque lens by implanting a transparent lens inside the eye-ball.

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Some homoeopathic drugs are being suggested below for this purpose :

4. HOMOEOPATHIC TREATMENT OF CATARACT

(a) **Cineraria Maritima Succus** : This medicine is prescribed to prevent cataract. One drop of this medicine is put in the eyes three times a day. Along with it, 5 pills of *Calcaria fluor* 12x are administered orally. In case it is not effective, *fluoric Acid* 6, can be given as an alternative three times a day for a month.

(b) **Prunus Spinosus 6 :** We have also mentioned this drug for the treatment of prostate gland. The drug prevents rigidity of all kinds and is useful in preventing rigidity of the eye-lens as well. It is a useful medicine for cataract.

(c) **Cataline** : *Dr. M. S. Aggarwal* who is Director of the Aggarwal Eye Institute at 15 Darya Ganj, Delhi, has suggested that this medicine is very effective in the treatment of Cataract. This is not a homoeopathic drug nor do we have any personal experience of its efficacy but we are mentioning it here as it is recommended by an eye-specialist. It is a Japanese formula but those who have used it don't recommend it.

5. REDNESS IN THE EYES

Euphrasia, 3,6,200 : Generally the eyes become red and start watering which is called conjunctivitis.

Anyone looking into the affected eyes also gets an infection and the disease spreads in an epidemic form.

In such a condition *Euphrasia* should be administered in 200 potency.

If it is given well in time, it serves as a great preventive. Once I gave 4 pills of this medicine (200 potency) to children in a School in Dehradun when conjuctivitis was spreading in the city in an epidemic form. As a result, not one of them

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caught the infection. This disease of the eye often spreads in an epidemic form in big cities like Bombay, Calcutta, Madras and Delhi. *Euphrasia* can be safely recommended for its prevention and cure.

6. EFFECT OF VITAMIN A, B-2, and E , ON EYES

In the chapter on Vitamins, we have mentioned that 'Vitamin A', 'B-2' and 'C' have a special impact on eyes. Vitamin 'A' occupies a very important place in the prevention of eye diseases, and improves the eye-sight. Next to it in order of priority are 'Vitamin B-2' and 'C' for the treatment of eye-ailments.

'Vitamin D' is also effective in *Myopia*. The mixture of 'Vitamin A and E', available in the market under the brand-name '*Aquasol*', is useful for the eye-sight. A and D prevent blindness.

Experience of some people is that one tablet of *Aquasol* taken every day is very effective in controlling and preventing eye-diseases, especially it is said to prevent detachment of Retina.

Vitamins should be taken regularly as they remain in the body only for short periods passing, as they do, in the form of perspiration or urination or stools.

In our country different companies are manufacturing different vitamins, each company having its own brand-name for its products.

7. MY PROGRAMME FOR THE EYES

Physiologists say that the only part of the human body that has no blood supply is the cornea. It takes oxygen directly from the air.

As regards the lens in the eyes the opaqueness of which results in cataract, it is said : "The lens of the human eye is

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composed of numerous transparent fibres and is encased in a clear elastic membrane. New fibres are constantly being created. Therefore, the size of the lens increases with age. The lens of an 80 years old is more than 50 percent larger than that of a 25 years old. However, as the lens grows larger, it becomes less pliable and its ability to focus for near vision is reduced".

From all this it is surmised that cataract is an inevitable process of advancing age. However, it is clear that along with other organs of the body cataract has some relation with health. As health depends upon nourishment and exercise, we must assume that by some way or the other, if proper exercise and nourishment is provided to the eyes, cataract can be overcome or delayed.

However, my programme for the upkeep of the health of the eyes is as follows : I drop one or two drops of *Cataline* in both eyes 4 times a day as advised. Along with this, I drop one or two drops of *Cineraria Maritima* also in the eyes, before going to bed and early in the morning. I take one tablet of *Aquasol* (A and E Vitamin) at breakfast with milk. I take 25 *Almonds* (गुलबन्दी बादाम—*Gulbandi*), finely ground, mixed with water early in the morning every day. At the time of *Praanaayaam* (प्राणायाम), I performs the *six exercises* of the eyes mentioned in this book. I also wash my eyes with *urine* as advised by *Shri Morarji Desai* for he wrote to me that this recipe has prevented further progress of cataract in his case though it had started to begin. I am still on experimental stage. My right eye is perfect, but the left eye sees dim. I occasionally use *Bhimseni Surmaa* also, but still have reached no definite conclusion as regards the caratrility of cataract.

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CHAPTER 17

Problem of the Prostate in Old Age

1. PROSTATE—ITS SWELLING AND POSITION

There are many ailments which characterise the old age, such as, rigidity in the joints and cataract in the eyes. Likewise, another complaint often peculiar to the old age, is urinal trouble which manifests itself in several ways. Sometimes urine passes with interuption, by drops, and at other times, it is accompanied by burning sensation.

Sometimes this urge to urinate is felt throughout the night —from seven to eight times—causing great inconvenience and discomfort. It was, therefore, felt necessary to write separately on this subject in detail.

While there are several reasons for urinal trouble, one of the main amongst them is enlargement of the prostate gland. Before throwing light on the subject, it is important to know about its location, nature and form.

This gland, peculiar to man, is one among the many other glands in the body.

Just below the navel, where there are hair in the generative region, if you press deeply you feel there a bone which is called the *pubic bone*. Similarly, there is also a pointed bone in the region of the rectum which is called *coccyx*. If these two bones—the pubic bone and the coccyx—are joined with a line, it would cross touching the prostate gland.

At this place also is urethra (excretary canal of the bladder) coming from the bladder. This urethra from where the

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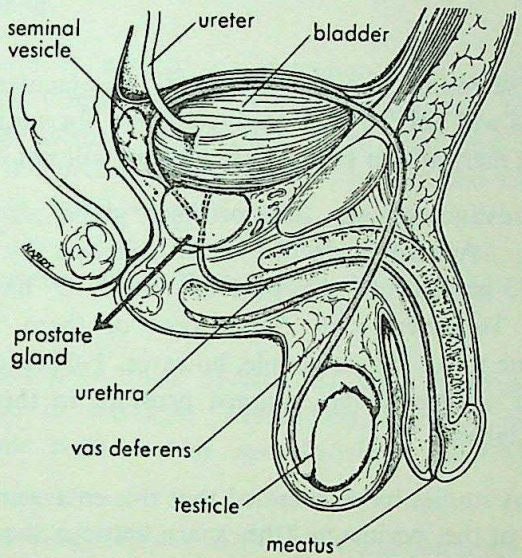
urine passes, crosses the prostate gland as is clear from the picture given. Prostate is a glandular body situated around the neck of the bladder in the male. While a big chunk of the prostate gland is below urethra, a part of it is above it. In fact, the prostate gland surrounds urethra the same way as a ring surrounds a finger. It does not cover the whole of urethra, but only that portion where a line coming from two bones—the pubic and the coccyx passes.

THE MALE REPRODUCTIVE SYSTEM



Urethra starts from the opening of the bladder. Prostate gland is located where the urethra (the excretary canal of the bladder) meets the opening of the bladder.

The prostate gland can be felt by inserting a finger through the rectum, as greater portion of it is below the urethra and near the rectum. Prostate is a distinctive feature of the male anatomy. A young man's prostate is of the size of walnut—one and half inches in width, one inch in length and three fourth of an inch in thickness. It weighs about three and a

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half gram in weight. Each gram is of 60 grains. By grain we mean the seed of a cereal.

Taking secretion from the prostate gland, some small tubes open up in the urethra. This secretion mixes up with the semen containing sperms ejaculated by the testicles, It is this secretion from prostate gland which accelerates the flow of sperms to the uterus of a woman during intercourse. When sperm of man and ovum of woman meet together conception takes place. In this manner, secretion of the prostate helps the sperms contained in semen to move on to meet the ovum of woman.

If this secretion does not overflow the ejaculated sperms, the sperms will not be activated to move forward ; they will keep lying inert and in such a case woman will not conceive.

With advance of age, the prostate gland also keeps on enlarging. According to the data collected by *Sir Henry Tomson*, 33 per cent of the persons above 55 have enlarged prostate. However, only 5 per cent of them have urinal trouble due to it. Some people, however, believe that the percentage of people having enlarged prostate in this age-group is much higher.

Various studies have revealed that this enlargement is from the side of the perineum (the space between the thighs from anus to genitalia) and not from the side of the bladder. This is why the enlargement can be ascertained by inserting a finger from the anus. From the size of walnut it may assume the shape of an orange or a coconut.

How much part of urethra is covered by prostate depends on how enlarged is the prostate gland. The pressure exerted on the urethra because of enlargement of the prostate gland closes the exit of the urethra and urine starts accumulating in the bladder. It does not pass in its entirity as it should in the natural course.

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The urine which comes to the bladder from kidney, through ureters is passed out in urination, but the amount which is not passed and starts accumulating there is called residual urine.

When this residual urine does not pass due to the enlargement of the Prostate it starts accumulating in the bladder. The walls of the bladder begin to harden to be able to contain it. Sometimes litres of this residual urine accumulates in bladder without the knowledge of a patient. This blocking of the passage of the urethra is due to the enlargement of the Prostate gland.

If pressure is exerted on perenium, this residual urine passes. But when instead of moving forward to pass out through the urethra, this urine starts changing its course backward, it causes strain on the bladder and the kidneys and gives rise to heart diseases, blood pressure, piles and other ailments of the rectum. Such a condition may happen due to the enlargement of the Prostate and retention of the urine in the bladder.

It has not been fully ascertained why the Prostate gland gets enlarged in old age. Most likely, as other parts of the body become rigid at this age, Prostate gland also falls in line.

There are many views on this phenomenon none of which, however, seem to be absolutely final. Some of these views are, however, being given here for the reader's knowlege :

2. CAUSE OF PROSTATITIS

(a) **Natural Rigidity of Old Age** : some French doctors say that enlargement of prostate is not an affliction of a particular organ or local ailment.

Since rigidity begins to show up in different parts of the body in old age, everbody suffers from Arterio-sclerosis ; the

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bladder, the prostate gland also becomes victim to it, and becomes hardened and rigid. But others opposed to this view argue as to why enlargement of prostate is witnessed in those also who do not show signs of arterio-sclerosis. Hence, the argument that it is a natural result of rigidity found in old age does not hold ground.

(b) Resemblance Between Prostate and Uterus : Another reason given for enlargement of the prostate is that there is a close resemblance between the uterus and the prostate.

Enlargement of the prostate is as natural to a man as the formation of tumor in uterus or vagina in the case of a woman.

Tumor in the uterus or vagina appears when woman's sexual activity declines. Enlargemrnt of the prostate gland also starts when the same happens in the case of man.

The above mentioned complaints in men and women start only when their sexual power is on the wane, it does not start when the sexual power is completely gone.

Therefore. these persons hold the view that there is some link between the enlargement of the prostate gland and the decline in the sexual power.

(c) Gonorrhea, Masturbation or Excessive Sexual Indulgence : According to the third view, enlargement of the prostate gland occurs only in the case of those persons who have had gonorrhea, practised masturbation or excessive sexual indulgence.

However, persons holding this view have no satisfactory answer to give when confronted with the question as to why people do not have enlargement of the prostate gland when they are actually engaged in masturbation or sexual excesses or are suffering from gonorrhea. In fact, the swelling should occur when these activities are being indulged in. Why is it that this complaint arises only in old age when they have already

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overcome such practices or problems ? The protagonists of the view, however, try to explain away by saying that in youth the prostate gland does not create any problem despite sexual indulgence because the body is flexible at the time and one can manage to overcome such excesses, but the result these old habits manifests itself in old age and leads to troubles like enlargement of the prostate gland.

To support their contention, they point out that the urine does not pass easily soon after the sexual act, which shows that this gland enlarges temporarily after the sexual activity.

Among all the reasons advanced for the enlargement of the prostate gland, those given by the French doctors sound most reasonable. It is quite logical to say that rigidity appears in all parts of the body in old age and that enlargement of the prostate gland is no exception. As a result of rigidity and inelasticity old people suffer from Cataract ; their joints of hands, also feet become immoveable ; shoulders freeze ; they suffer from crouch and backache—every part of their body shows signs of decay due to want of flexibility. Under such circumstances, if they suffer from the hardness of the prostate also, then one may not try to seek its cause elsewhere.

Caution : It may be mentioned here that some people out of laziness or hesitation develop the habit of not responding to the urge to urinate. This habit is very bad as it leads to the prostatic trouble. Postponing the passing of urine puts pressure on the bladder, thickens its wall and leads to the enlargement of the prostate gland and causes obstruction in the urethra. It can lead to all such complications, such as, total obstruction in the passing of urine or its passing with interruption—sometimes drop by drop—accompanied by burning sensation or pain. Like other impulses one should never postpone passing of urine when there is an urge.

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3. CHARACTERISTICS OF PROSTATITIS

The enlargement of the prostate gland occurs gradually. It may take many years. Generally, it passes through three stages :

(a) First Stage : In the first stage the trouble is so negligible that all the characteristics mentioned above are minimum. The patient does not think of consulting a doctor. In this stage the urge to urinate increases. The patient begins to urinate one or two times more than usual. Some patients experience burning sensation in urethra, particularly, in the glans (the bulbous extrimity) of the penis. Others have to wait for some time for the urine to pass.

They have to wait because there is some obstruction, and this obstruction is in the prostate gland. The urge is clear and there is no specific complaint except that it does not pass with the same pressure as it does in the case of childern. It just falls on the ground because of its own weight.

If the patient keeps walking about or moving, the urine pasess without delay. But if he keeps lying on the bed for long, keeps reading or writing sitting in the chair he finds that passing of urine involves delay. Compared to day time, the urge is felt more in the night. At this stage, however, there is no big quantity of the residual urine. The patient can still empty the bladder completely.

To ascertain the stage of the disease, the patient must see if he can empty his bladder completely or not. If he can, the disease is still in its early stage, but if he cannot, there is need for attention.

(b) Second Stage : The first stage of the prostate can go on for several years.

But when the residual urine begins to collect in the bladder, as a result of the enlargement in the prostate gland, the disease should be deemed to have entered the second stage.

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The symptoms of the disease remain the same but they aggravate and start giving trouble.

The urge to urinate increases so much that one has to go to bath-room 6 or 7 times in the night. One cannot urinate while lying in bed. One has to get up for this purpose. There is swelling and pain in the bladder. Hence, the urge increases. While the pain in the first stage is occasional, in the second stage, it is frequent, sometimes, even constant because even after urination, enough residual urine remains collected in the bladder.

(c) **The Third Stage :** The bladder is such a reservoir which stores a limited quantity of urine which can be passed voluntarily according to convenience.

Suppose one passes 50 ounces of urine in 24 hours, and further suppose there is a scope of collecting only 10 ounces of urine at a time. It means that one should urinate five times in 24 hours. But in case one has to pass 50 ounces of urine but due to the enlargement of the prostate the bladder has the capacity to retain only 6 ounces of urine instead of 10, then it is clear that in such a case one has to urinate 8 times ($8 \times 6 = 48$ or about 50) during this period.

This is the reason why frequency of urination increases in case of enlarged prostate.

The enlargement of the prostate gland takes place from all the four sides—from the bladder side in the back, from the urethral side in the front and from above and below it. When the enlargement of the prostate enters the third stage, one has to urinate after every half an hour. It is because with this enlargement, the inside space of the bladder and its power of retention are on decline. This is the third stage.

In the third stage either there is swelling at the opening of the bladder or obstruction is caused by enlargement of the

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bladder. The ruselt is that the bladder remains full of urine, it either does not pass urine or the urine escapes in small quantities drop by drop with difficulty. One cannot urinate at will. The bladder swells so much due to the retention of urine that one has to bend on knees and moving right or left has to find a position in which evacuation of urine can be done,

Sometimes the bladder enlarges so much that urine is collected up to 60 ounces, but one cannot voluntarily pass urine. Under such condition catheter has to be used. The doctor can train the patient as to how to use the catheter himself in case of urgency or necessity.

4. EXAMINATION OF THE ENLARGED PROSTATE

There cannot be but many complaints of the prostate gland. Its enlargement, generally known to the people, is only one of them. The prostate gland can be afflicted with, among other things, cancer or tumor. While it is for the specialists to go into details, we are giving below certain ordinary instructions for self examination of the enlargement of the prostate gland.

(a) The Flow Of The Urine : If one is free from any complaint related to the prostate gland the flow of the urine should be like that of a child which is directed forward with a pressure. If, instead, the urine falls directly below as regulated by the gravitational force, there is reason to suspect some prostatic trouble.

(b) Frequent Urination : Ordinarily a person should have the urge to urinate 3 to 5 times a day. Prostatic trouble can be suspected if its frequency goes up to 6 to 7 times a day. Children urinate many times a day because of certain other factors. What we have said above is in relation to persons above 50 to 55.

(c) Touching The Prostate Gland By Inserting A Finger Through Rectum : To find out whether prostate has enlarged

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one can insert one's longest finger through the rectum and find out whether the gland is enlarged or not. Doctors make the patients lie on the table on the knees. Then after wearing a glove in the hand applying a little vaseline on the finger insert it slowly into the rectum towards the prostate gland. If it is enlarged it can be felt by the touch of this finger. The size of its enlargement can also be ascertained.

Prostate is divided into two lobes. These lobes surround the urethra on upper and lower side. The touch of a finger can ascertain whether there is swelling in the entire prostate or in one of its two lobes. These two lobes of the prostate are on either sides of urethra. If the touch causes pain, the disease should be considered in advanced stage.

(d) Examination by Cystoscopy : To examine the exact condition of the prostate gland specialists use an instrument called 'cytoscope'. The cytoscope is very useful in knowing the exact position. But it can be used only by a specialist and not by a layman.

5. SOME EXERCISES FOR THE PROSTATE

Contraction and relaxation are as useful to keep the prostate gland healthy as they are for keeping other organs flexible and fit.

These two processes—contraction and relaxation—constitute the best exercises for any organ because they result in circulation of the blood in the blood vessels, arteries and muscles and removal of the deposits accumulated there.

They eliminate the waste from the body in the same way as does the cleansing of utensils. Following are the exercises for the prostate gland.

(a) Sidhaasan : We have already given the location of the prostate gland in the body. We should, therefore, take such exer cise which may cause circulation of blood of that particular part

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to keep this gland healthy. This purpose is best served by *Siddhaasan* (सिद्धासन) amongst all the other *yogic* postures. The *Siddhaasan* done by sitting on the floor with the left foot tightly pressed against the perineum (सीवन) and the heel of the right foot touching the root of the penis or placing it wherever it is convinient. Perineum is the space between thighs from annus to gentilia—*Seevan* (सीवन) as it is called in Hindi. We have shown the *Siddhaaasan*-posture in the picture along with *Padmaasan.*

Sitting in this posture, swing the upper part of your body backward, and forward, and sideways. Swinging is not in vogue in this *Aasan* but this is the proper method described here, which controls the prostate by putting pressure on it.

Generally, the *Yogis* recomnend, that this *Aasna* should be done while taking breathing exercise—*Praanaayaam.* I myself sit in this posture while doing breathing exercises. During the course of half an hour which these exercises take, I thus automatically give exercise to the prostate gland. It must be remembered that this exercise of the prostate gland—*Siddhaasana*—is only to prevent and not to cure the prostate complications.

(b) Pressure on the Prostate from the Bladder Side : We have described where the bladder is located. There is a bone below the pubic region slightly above the penis. If we press the portion above this bone, below the navel where the muscles of the abdomen end, the pressure is exerted on the mouth of the bladder. The persons who have residual urine in their bladder feel heaviness at that place. The portion of the prostate covering the mouth of the bladder from the above side can be exercised by this pressure practice.

To practice this exercise, sit on a soft mattress with your buttocks on your things, your legs below the things, and the weight of the things resting on the legs. Now, clinch your fists and repeatedly press the soft part below the navel and above the pubic region. It will put pressure on the exit-mouth of the

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bladder which is covered by a small part of the prostate and the process will be a sort of massage of the prostate.

This will also prevent hardening of the prostate gland. While *Siddhaasana* exercises the lower part of the prostate this stroking described above exercises the upper part of the prostate. This exercise is useful both for the bladder as well as the prostate.

(c) **Nyoli :** *Nyoli* (न्योली क्रिया), which is good for intestines, has also its impact on the prostate gland. While performing *Nyoli*, you just move the abdominal muscle up and down, right side and left side, and also round and round.

Put off your clothes. Stand erect. Place both your palms on the respective thighs. Bend forward. Put the body-weight on the waist. Now exhale. Contract the abdomen towards inside. Now try to contract and relax the muscles of the abdomen from above the root of the penis. Bring the abdominal muscle up and down. This is the first exercise for the prostate which automatically affects the intestines as well. This is No. 1 exercise of *Nyoli*.

Now making the root of the genitalia as the centre, move the abdominal muscles from left to right and from right to left.

Because the pressure in this movement is also exerted on the root of the genitalia, it has also good impact on the prostate gland as well as on the intestines and other organs within the abdomen. This is No. 2 exercise of *Nyoli*.

Now comes the third exercise of the prostate gland, through *Nyoli*. Standing in the same posture and following the same direction for breathing and also keeping the root of the genitalia as the centre, tense up the abdominal muscles ; and push the right and left side of the abdomen separately towards the right and left side alternately. First push the right side of the abdominal muscle to the right and then do the same to

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the left. This is No. 3 exercise of the *Nyoli* which has an impact both on the prostate and the intestines. We have shown the three *Nyoli* exercises in the pictures elsewhere.

It should be borne in mind that *Nyoli* is best performed while exhaling. If lungs are full of breath, the abdomen cannot be contracted and relaxed, and without its contraction and relaxation *Nyoli* cannot be performed. It is, therefore, advisable to breath out as much as possible while performing *Nyoli.*

It is not necessary to stick to a definite technique. Keeping the purpose in view one can chalk out one's own technique.

6. HOMOEOPATHIC MEDICINES

(a) Sabal Serrulata, Mother Tincture : Taking 5-7 drops of this medicine 3 times a day prevents enlargement or swelling of the prostate gland. This is the main medicine for the complaint.

It is given in many complications connected with the prostate. It has been found quite effective in prostatic-troubles in old age.

Though *Aconite* and *Belladonna* are prescribed in case of swelling in any part of the body, *Sabal Serrulata* is also given along with these two medicines when swelling in the prostate gland is accompanied by fever or pain.

This remedy can be taken in the form of mother tincture or in 2x potency. Some doctors are of the view that it is more effective in 3rd potency. But if it is not available in this potency, it can be taken in whatever form or potency it is available at the chemist's.

I know a person who has been taking 5 drops of this remedy for last 4 years and is free from any prostatic trouble even at the age of 85.

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(b) **Thlaspi Bursa, Mother Tincture :** Like *Sabal Serrulata,* it can also be given in a routine way.

Dr. William Karo, M. D. in his book '*Urinary and Prostatic Troubles*' describes this as a specific medicine for all urinary troubles. It can be given to all prostate patients. It often replaces the use of catheter.

It is also recommended in case of frequent urge to urinate or in cases when urine is accompanied by blood. It can be administered alternately with *Sabal Serrulata,* one after the other. Dose : ten drops at a time.

(c) **Pareira Brava, 4x :** It is very effective, almost 'specific' in bladder troubles. It is given when the urine stops or there is pain in the prostate.

(d) **Ferrum Picricum** : According to *Dr. Dewey,* it is the next effective medicine for old men with enlargement of the prostate.

He recommends that it should be taken in 3x potency. *Dr. Bessi* has found *Cimicifuga* also very useful.

(e) **Cantharis 6 or 30 :** Some of the characteristic symptoms of this medicine are : great urge to urinate, violent burning in urine and urine comes drop by drop.

Burning sensation continues before, after and during urination is its prominent symptom.

(f) **Prunus Spinosa :** *Dr. Frank Miller* finds it very useful in prostatic troubles. The chief characteristics of the medicine are that the urine seems to pass as far as glans, and then returns. Must force it out for a long time before urine appears

(g) **Urtica Urens, mother tincture : (For Gravel, Gout and Rheumatism and Urinary troubles) :** *Dr. Burnett* says ; "It is my sheet-anchor in both, Gout and Gravel. In Gravel it facilitates

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and accelerates its passage and ends by curing the colic casually. My usual mode of administering it is by giving 5 drops of mother tincture in hot water repeated every 2 or 3 hours". See Chapter 9 also.

7. DIABETES

Some middle aged persons fall a victim to diabetes. Diabetes is of two types : diabetes mellitus and diabetes insipidus.

In both these types of diabetes, there is excessive urine. But while in diabetes mellitus, there is emission of excessive sugar, it is not so in diabetes insipidus.

A diabetic patient generally suffers from boils which are incurable. Sometimes, carbuncles and gangrenes also appear. The specific gravity of urine, which in an average person would be around 1.003 increases up to 1.025 or even 1.045 in case of diabetic patient.

The diabetic should give up all starch foods. Among fruits, rose apple (*Jamun*—जामन) is particularly useful. He should take very little of carbohydrates as they are converted into sugar.

He should depend more on protiens and fats. Along with this he should take green vegetables for the intake of Vitamins because he has to deny himself such Vitamins found in carbohydrates. If sufficient Vitamins are not available through these vegetables, the deficiency can be made up by the use of Vitamin tablets.

Insulin, a harmone, is produced by a gland known as pancreas. The function of insulin is to preserve sugar in the body. When there is more pressure on pancreas because of consumption of sweet-meats, pancreas lessens the secretion of insulin. And the lack of insulin leads to emission of sugar with urine instead of its preservation for future use. This canses diabetes.

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8. HOMOEOPATHIC DRUGS FOR DIABETES

(a) **Arsenicum Bromide, Mother Tinctrue** : Take three drops of this tincture in a glass of water thrice a day.

It is useful in both the types of diabetes. *Dr. Annshuy* claims to have cured many diabetic patients of advanced stage with this. This medicine will reduce the unusual thirst. It should be taken till sugar is reduced in the urine and then stopped. He claims that he cured such diabetic patients whose urine when boiled was converted into sugar.

(b) **Phosphoric Acid IX** : This medicine is also useful in both the types of diabetes.

One to two drops of it can be taken after every three hours in a glass of water. This medicine is particularly effective for nervous patients.

The patient feels extremely weak. His hands, legs and muscles keep aching.

(c) **Syzygium Jambolan** : This medicine is made of rose-apple (*Jamun*) and can be given with other medicines. It is particularly useful in Diabetes Mellitus, where there is excessive sugar in urine.

(d) **Uranium Nitricum 2x** : The patient suffers from insatiable hunger and thirst. The stomach remains filled with gas. It is useful when there is hunger despite the fact that the stomach seems loaded and the patient is diabetic.

(e) **Natrum Sulph 6X** : In Biochemistry, it is the principal remedy of this disease. 4-5 tablets of this medicine should be given 3-4 times a day. Relief follows after 3-4 months of treatment.

Some patients also showed signs of relief after taking *Natrum Sulph 6x* and *Magnesia Phos 6X*, alternately, after every one hour. The treatment was continued for a month when it showed signs of relief.

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(f) **Insulin 30** : In homoeopathy also, *Insulin* 30 is prescribed for the treatment of diabetes.

(g) **Vitamin 'B'** : In Eurpoe, Vitamin 'B' is considered as the Insulin of the poor which is effective in the treatment of diabetes.

9. AYURVEDIC TREATMENT OF DIABETES

Ayurvedic physicians prescribe *Vasant Kusmaakar* (वसन्त कुसुमाकर). One tablet a day for Diabetes. It is said that the patient should eat plenty of *Jamuns* (Jambolan), otherwise known as rose-apple during the season. As regards, vegetables *Karelaa* is very much recommended. It is said that *Kerelaa*-wine is very effective in meeting the complaints of this disease. Many patients have reported cured by taking this. Since patients have reported cure by drinking water in a wooden cup made of *Beejaa Saal-wood* (बीजा साल), hence they say, saal-wood that is effective, is only *Beejaa Saal*, not any other. This wood is found in Madhy Pradesh. One can put *Beeja Saal* stieks in water for 12 to 24 hours and drink the water for several days.

The following passage taken from **Indian Express**, (Delhi), dated 3.11.1982 is enlightening :

"Fifty percent of those suffering from Diabetes in the country come to know of it only when it manifests itself in the form of blindness, paralysis, skin infections, heart attack, ulcer, kidney failure or gangrene of the foot", according to *Dr. S. S. Rustogi*.

"To avoid such complications people above 40 years of age, especially if they are overweight, should have a regular check-up to detect diabetes early, and control it".

Indian Express (Delhi), dated 5.11.1982 has the following for its *Ayurvedic* cure : "An All India *Ayurvedic* Seminar which

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concluded here on Monday has come up with certain suggestions to check diabets. The Seminar, which was attended by noted *Ayurvedic* practitioners felt that *Kerela juice* (करेले का रस) taken twice daily can effectively check diabetic attacks. It has also suggested raw garlic (कच्चा लहसन) taken before meals is an anti-dote to diabetes. It also suggested that diabetic patients should take light exercises every day".

10. YOGIC EXERCISES FOR DIABETES

In a later chapter we shall deal with *Shavaasan* (the dead-man's pose). Regarding this Swami *Satyanand* says in his book ; '*Yoga and Kriya*' (p. 52) ; "People who suffer from High Blood Pressure, Neurasthenia, *Diabetes* or any other ailment that is directly related to excessive stress are advised to practice *Shavaasan* a few times every day".

Regarding *Shankhaprakshalan* (शंख प्रक्षालन) he says in the same book (p. 283) : "*Shankhaprakshalan* can result in a wonderful and noticeable improvement in general health as well as helping to remove specific ailments. In particular, it has been found useful for the treatment of Diabetes, hyper-acidity, constipation, dysentry and many other ailments".

Shankhaprakshalan is a *Yagic* practice of drinking huge quantity of water and passing it out through anus. This practice can be learnt from an expert *Guru*.

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CHAPTER 18

Obesity and Youth

1. REASON OF OBSITY

What is obesity ? Everyone today is worried over accumulation of fat in the body. It is to ward off obesity (fatness, corpulence), or to reduce it if it has already accumulated, that men and women take to dieting.

It appears nobody wants to have accumulation of fat in the body. But it must be borne in mind that fat is very important for the body.

There are special reasons why body accumulates or preserves fat. The body requires energy to keep it going. The heat, the energy in the body is produced by burning of the carbohydrates or sugar the same way as fire is produced by burning of the wood.

But carbohydrates are destroyed very easily and in a short time. The energy or heat produced by them is very little and is also very short-lasting.

Compared to carbohydrates, the fats produce more energy and are not easily destroyed. In fact, the fats produce double the energy compared to carbohydrates and part of them is preserved for future use. So, fats serve as a reservoir for obtaining energy and heat in the body. This is the reason why when we take less food or are on fast, our energy is maintained because of burning of the fat preserved in the body, but when we cross the limits and burn all the fat, we become weak.

It is, therefore, useful for the body to preserve fat but to a limit. Fat generates heat in the body. Thin and bony persons cannot tolerate cold because they lack fat.

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Fat also helps in keeping the body proportionate and beautiful. In old age, the body loses its beauty because deterioration in the digestive system results in consumption of more fat and consequent weakness.

In youth all the organs like cheeks, chest, thighs, hands and legs appear to be beautiful and well grown because of the presence of fat. In old age, when this fat disappears, all this beauty fades and fatlessness begins to convert itself into sluggishness. Even if extra fat accumulates in any organ of the body, the same is the result—ugliness.

2. FAT AND CHOLESTEROL

When the body of a person has a tendency towards obesity, its impact is particularly felt on the abdomen.

There is very good reason for obesity to make abdomen its target. Fat is a matter which has no movement of its own. It will stay in the abdominal muscles where it finds no obstruction.

It can not accumulate in hands or legs because there is movement in them. It accumulates in those parts of the body where there is no movement.

Since abdomen remains stationary because people keep sitting at one place throughout the day, fat shows up and finds it a convenient place to stay put.

In persons of sedentary habit, the abdomen appears to be of a larger size. Their other organs which remain active become thinner than their abdomen. Milk, *Ghee*, butter, dalda and fats contain cholesterol which, when taken in excess, clogs the arteries in the form of fatty particles and it results in a bulging belly.

Diet, rich in cholesterol, not only makes the abodmen fat, but all other parts of the body also. Generally, there is greater accumulation of fat among women than men,

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While on an average man has 10 percent fat, an average woman has 25 percent fat. It means that if an average man has 10 pounds of fat, an average woman has 35 pounds of fat. This is why women need more dieting compared to men.

Obesity leads to many complications. After examining 100 fat patients, an American doctor has concluded that 33 per cent people suffered from ailments connected with heart and circulation of blood, 15 per cent from blood pressure and 12 percent from kidney troubles.

Life Insurance Statistics also reveal that obese persons fall victims to diabetes and heart or kideny troubles, besides blood pressure. Such persons have also less chances of survival in case they are operated upon. In case of women excess of fat complicates and raises other problems at the time of delivery.

Increase in fat on the body shortens the span of life. Compared to obese persons, thinner persons have better chances of living longer.

From the point of view of health, it is considered ideal to maintain in old age the same weight one had at 30-35. To be underweight is also not a healthy sign.

Because most of the complications mentioned above arise due to high level of cholesterol in the fat, a few suggestions are being given below to keep it down :

(a) **Keep the Intestines Clear:** Russian doctors are of the view that cholesterol level among persons with active intestines remains within a reasonable limit. They say : '*Active bowls help to get rid* of *cholesterol*'. Thus one of the ways to fight obesity is to exercise the intestines and to avoid constipation. We have already given in detail as to how to practice intestinal exercises. *Nyoli* (न्योली) is the best exercise for intestines. It is a *yogic* exercise which we have shown in the pictures elsewhere.

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(b) Take Vegetable Fats in Place of Animal Fats : In 1956, *Dr. Bront Stuart* started giving oil instead of butter and *Ghee* to his patients which brought down their level of cholesterol.

When the former U. S. President *Eisenhower* had a heart attack, the doctors expressed the view that animal fats increase and vegetable fats decrease the cholesterol level in the body.

From this point of view it may be said that *Ghee* and butter and other milk products increase the cholestrol level in the body hardening the arteries and capillaries. On the other hand, vegetable fats dissolve the cholesterol.

(c) Take Gur Instead of White Sugar : *Dr. O.W. Portman* of the Harward School of Public Health has found that consumtion of white sugar increases the level of cholesterol. Those who have higher quantity of cholesterol in their blood should start using *Gur* (Jaggery) or crude sugar.

(d) Meat-eaters Should Take Fish : The Fishery Counsel of the United States says that the fish and its oil help in reducing cholesterol level.

(e) Eggs are Rich in Cholesterol : It should be borne in mind that though the eggs are rich in cholesterol, yet the presence of licithin in them prevents its accumulation in the body.

(f) Use Curd (Yogurt) or Butter Milk : Modern experiments have revealed that curd or butter milk reduces choletserol and prevents the fat accumulation on the heart.

To completely remove cholesterol from the body is not only impossible but also unnecessary.

It is found in every part of the body—in the brain, in every tissue or cell of the body, in the liver and the blood. Only its excess, which is known as Hyper-Cholesteremia is harmful. Its limited quantity in the hody is good.

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Its excess in 40-45 age-group increases the possibility of Hardending of arteries, Nephrosis or Diabetes.

The popular technique of reducing fat is to regulate one's diet. Diet recommended in such cases, is low in cholesterol which satisfies the hunger without increasing fat.

With this object in view one author has written a book entitled "*Eat and Reduce*".

Dieting or fasting reduces the fat but it also leads to weakness because the fat already stored in the body is consumed in maintaining the dissipating energy, hence, such food is suggested which keeps fat in check but maintains the energy of the body.

To some extent dieting may be helpful but there is possibility of its doing more harm than good. Dieting can lead to weakness, and weakness can affect one's heart. While it is important to avoid obesity for long life, it is equally important to maintain the strength of the heart. One should not go so far in dieting that it may damage the heart.

In avoiding milk, *Ghee*, butter and meat, there is no doubt that the obesity is checked, but one should not forget that by going in the extreme, heart is weakened.

The constitution of the body, in the case of some people, is such that even when they reduce their diet, their fat still goes on increasing from within.

This reminds me of a woman patient getting treatment for obesity in a Nature Cure Clinic at *Urlikanchan* near *Pune*, being run by *Acharya Vinoba Bhave's* brother.

Her weight was so much that her body could not bear it, and even walking was a problem for her. She was made to fast for a month. It led to considerable reduction in her weight. But after this, when she was given oranges and later

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a small quntity of pulse, she added one pound to her weight in a day.

In her case fat was produced from within her body. Often one hears people remark that whatever they eat converts into fat. An elephant takes only leaves of grass but his bodily structure is such that even those leaves change into fat. It is apparent, therefore, that one should search for the way which may aid in overcoming obesity without dieting and the consequent weakness. What is that way ?

Well, the way and the remedy consists in making that part of the body active where these fats deposit. We have already said elsewhere that fat is an inert substance ; it has no movement of its own ; it will get deposited according to the law of gravitation where there is no obstruction. If an organ is active and is in motion there will be no occasion for the fat to accumulate there. Water collects only where the water does not run. In running water there are no pools. As already stated, dead tissues cannot accumulate in any location of the body, if the process of contraction and relaxation continues. The deposits obstruct the free flow of blood if they are not removed from the body by contraction and relaxation, that is, by friction and massage. If the organ where deposits of fat accumulate is subject to contraction and relaxation, no waste matter in the form of fattiness can stay there. In short, there is only one method to root out obesity and to fight against it. That method is to subject that organ to exercise, so that the fat stationed there may be consumed. By exercise a part of it will be utilized and the rest will pass out from the body as the other waste matter or dead cells do

It is obvious that obesity of an organ is due to its inactivity, therefore, it is equally obvious that the cure of obesity is to initiate activity into that organ. Particularly, the obesity of the abdominal muscles and of the buttocks and waist is due to the inertia of these organs. Hence, all the fat finds its natural

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habitat in these locations. It is true that walking reduces fat,but walking and jogging give an exercise mostly to the legs and thighs, it does not so much affect the abdomen which is the natural location of the accumulation of fat. It is, therefore, necessary to undertake some exercises which have a direct bearing on the abdominal muscles so that fat may not accumulate there, and if accumulated, may dissolve.

We are giving hereunder some of the exercises which will help in dissolving the fat of the abdomen and the waist :

3. EXERCISE OF THE ABDOMEN AND THE WAIST

(a) Tense up Abdomen and Move it up and down : Lie down straight on your back. Tense up the muscles of the abdomen pressing it downward with the palms of your hands.

Then, raise the muscles of your abdomen—up and down, up and down. Do it 20 times. Keep moving your palms, still on the abdomen, backward and forward giving friction and massage to the accumulated fat.

The pressure of the palms should be such that it falls on the fat and not on the skin of the abdomen alone.

(b) Stroke Abdomen with Fists : After this exercise close your fists and stroke your abdomen while contracting and relaxing the muscles of the abdomen.

The way to contract and relax is to tense up your abdomen and leave it. Or, as an alternative, raise your head while stroking the abdomen with your fists and bring the head back to its normal position. This process will also involve both the processes of contraction and relaxation.

The main purpose is to exercise the muscles of the abdomen. Do it any way you may conceive of. There is no question of sticking to a particular technique.

(c) Lie on Back and Curve up to Hold the Feet : Lie on your back with both your arms parallel to and lying along the body in close contact.

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Now, raise the upper part of your body gradually with a pressure on the waist, bringing forward the hands from over the head till they touch the left and right thumb of your feet respectively. It is a sort of curving up, with hands stretched out, to catch the feet.

This will put pressure on your abdomen. Now, slowly come back to the original position. Do this exercise for 5 to 7 times. Both men and women can do this exercise. This will reduce the fat in the abdomen.

(d) Contract and Relax Abdomen : Exercises mentioned in the 13th chapter are also useful in reducing obesity, particularly fat on the abdomen by the process of contraction and relaxation.

These exercises taken regularly will surely be useful as they help in directing the flow of blood towards the abdomen. When the oxygen in the red blood corpuscles in the body will come in contact with the carbon dioxide in the fat, oxidation will take place and the fat will burn in this chemical process.

(e) Walking and Jogging : Walking and jogging are also good for reducing fat. If a person of 300 pounds walks or does jogging 3 miles a day, he will consume 300 calories or cut one and half ounce of his weight. Daily gymnasitics is also good. But what happens in walking and gymnastics is that while, on the one hand, they reduce fat, on the other they sharpen the appetite. Moreover, heavy exercise can also be bad for persons over 40 or 45. In this age, it is better to go out for a walk or take the light exercises mentioned in this book. The point in favour of these exercises is that though they take longer time, yet they are light. Moveover, for an old man there is a question of how to spend time. These exercises solve that problem also.

(f) Steam Bath : Steam bath, which can be learnt from any Naturopath, is also good to check obesity.

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4. FOOD AS A FACTOR IN OBESITY

Every man and woman today seems to be desirous of reducing fat. It is no doubt important to maintain good health.

Dr. Kularanjan Mukherjee has in his book '*Home Treatment of Chronic Diseases*' given some suggestions in this connection which are worth knowing.

He writes that the main remedy for obesity is the control of diet. Before the treatment starts, the patient should cut, as far as possible, on foods which increase fat. Generally, fatty foods produce fat in the body. It is, therefore, proper to avoid oil, Ghee, butter and meat.

Fat is produced by such foods as rice, bread, sugar and barley which contain carbo-hydrates. One should reduce their consumption to prevent it. Till one's weight is restored to normal, one should take more of fruits, salad, boiled vegetables, soup and butter-milk. All this is enough to meet the needs of the body.

In regulation of food, it is necessary to reduce its caloric value. Whatever we take as food produces heat and energy after being burnt by the heat caused by oxygen.

Consumption of fats, sugar and meat produces more heat and energy in the body than fruits and vegetables though they are very conducive to good health, but do not produce heat and energy which is essential for life.

The caloric value of half a kilogram of *butter* is 3,615 ; of half a kilogram of *sugar* is 1,820 and of half a kilogram of *wheat* is 1,645. But half a kilogram of *cucumber* gives 70 calories ; *tomatoes* 105 calories ; *spinach* 120 calories and *apple* 320 calories. But it is important for a young person to have intake of at least 3000 calories.

What will happen if a person's hunger is satisfied by giving him fruits and vegetables, thus reducing his intake from 3000 to 2,000 or 1,500 calories.

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In this condition, the required heat and energy will be produced by burning of the stored up fat in the body because of absence of fuel.

This way a person's weight will go on reducing though he will not suffer from the pangs of hunger. Moreover, the condition of the body which is diseased and causes obesity will also improve with intake of sufficient quantity of fruits, vegetables, butter-milk etc. The very roots of the disease will automatically be removed.

Along with reducing weight, one should ensure that the body cells are kept alive and active. For this the person should be given some protein diet daily. Besides other things butter-milk fulfils this need also.

Fasting is very useful to treat obesity. It reduces weight. But it is not good for health to reduce more than 2-3 pounds of weight in a week. Drop of weight with a faster rate can affect the heart, the kidney and the nervous system.

To reduce weight, it is important to cut the intake of calories. The weight will increase with consumption of food having high calories and decrease with food of low calories.

If one is to treat one's obesity by regulating diet, one should choose such food which has low calories but due to its bulk satisfies hunger, that is, fills the stomach.

The food should not be such that leaves a man hungry, even if it has less calories and helps to reduce fat. With these objectives in sight dieticians have expressed the view that very fat persons should consume food of 1,000, medium fat persons of 1200 and slightly fat persons food of from 1,500 to 1800 calories daily. They should not exceed these limits. Though a young person, to keep up his strength, requires 3000 calories, yet if one is fat and is anxious to reduce, the rest of the calories will be made up out of the excess fat that he has, thus energy will remain that of an adult yet the fat will be reduced.

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We will discuss the caloric value of different foods and other related topics in the 19 chapter. It is sufficient to say that diet rich in calories leads to obesity. But it should be properly understood as to whom should we call fat ?

If a man has 20 per cent more weight than considered normal for his length, he falls under the category of very-fat person ; if he has less than 20 per cent but between 15 to 20 per cent, then he falls under the medium-fat category ; and if he is somewhat fat, then he falls in ordinary-fat category.

The following Table taken from the book '*Nutrition in Health and Disease*', published by J. B. Lippincott Company, Philadelphia, London, Montreal, gives the normal weight and length of a normal man and a normal woman of 25 years of age. *Gayelord Hauser* writes in his book '*New Treasury of Secrets*' that the proportion of length in feet and weight in pounds should usually remain the same even in advanced age :

25 Year's Men		**25 Year's Women**	
Length (Feet)	*Weight (Pounds)*	*Length (Feet)*	*Weight (Pounds)*
5 feet 2 inches	124 to 133	4 feet 11 inches	110 to 118
5 feet 3 inches	127—136	5 feet	112—120
5 feet 4 inches	130—140	5 feet 1 inch	114—122
5 feet 5 inches	134—144	5 feet 2 inches	117—125
5 feet 6 inches	137—147	5 feet 3 inches	120—128
5 feet 7 inches	141—151	5 feet 4 inches	124—132
5 feet 8 inches	145—156	5 feet 5 inches	127—135
5 feet 9 inches	149—160	5 feet 6 inches	130—140
5 feet 10 inches	153—164	5 feet 7 inches	134—144

Keeping this table in mind the dieticians of the Safdarjang Hospital have in their booklet ; '*Your Guide to Reduce*' suggest the following food containing 1200 calories :

Morning : Tea without sugar or instead, lemon juice.
Breakfast ; Skimmed milk ; One glass and bread (one piece)
Before Noon : Skimmed milk one cup ; or juice one cup.

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Lunch :	Small chapaatis	2 Chapaatis
	Some pulse :	1 Small bowl.
	Skimmed curd :	1 Small bowl.
	Green vegetables	To one's taste
	Ghee	One teaspoonful
	Fruit	One small piece
Evening :	Skimmed Milk, Tea or Coffee without sugar	One cup of any of these three (Milk, Tea or Coffee)
Dinner :	Small chapaatis	2 Chapaatis
	Cheese	50 grams
	Skimmed curd	One small bowl
	Green vegetables	To one's taste
	Ghee	One teaspoonful
	Fruit	One small piece

The dietician of Safdarjung Hospital, *Dr. Sudershan Kuppuswami* (now deceased) suggested that non-vegetarians can take one egg instead of one glass of skimmed milk in the morning and 100 grams fish as a substitute of 50 grams of cheese in the evening.

Those who want to reduce their weight should scrupulously avoid things like cream, butter, Ghee, buffalo-milk, oil, fried food, honey, sugar, sweetmeats, ovaltine, Horlics, coca, cheese, banana, mango, grapes, jam, arvi, potato, coca cola, apple, dry fruits and alcohol.

They can take all varieties of vegetables, lemon juice, soup, liquids, skimmed milk or fruits. Fat persons should not be tempted to take '*Parotha*' (परोठा) or such sweetmeats as *Laddoo* (लड्डू), *Balushahi* (बालूशाही) etc. They can take one big plate of salad or 2 glasses of *Lassi* (Butter milk—लस्सी) to satisfy their hunger. But rarely do fat men resist such tempatations.

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They say : Now that we are hungry, why not take *Parotha* or enjoy the taste of *Laddoo* ? But the result ? Accumulation of fat and the necessary consequences.

5. HOMOEOPATHIC DRUGS

(a) Calcarea Carb, 200, 1000 (in that order) : If one is fat by constitution, it should be found out whether he or she used to have unusual perspiration on the head to the extent that even pillow got wet. This symptom may have been in childhood or it may be present even now. This is a constitutional remedy for fat people.

In such cases the bones are weak but fat accumulates on the body. Four or five pills of this medicine may be administered in 200 potency once a week.

After giving this remedy for 3 or 4 months in 200 potency, it can be given once in a month in 1000 potency.

(b) Mixture of Bio-chemic Powders : The following bio-chemic medicines can be given three times a day : *Calcaria phos* 3x or 12x, *Kali Muir 6x*, *Kali phos 3X*, *Natrum Muir 3X*, and *Silicia 12X*.

This mixture can be continued till fat is reduced. This treatment should be accompanied by one teaspoonful of honey with one lemon in one glass of water.

(c) Fucus Versiculosus, Mother tincture : From 5 to 60 drops of this 3 times a day taken before meals is useful for digestion and checks Thyroid enlargement in obese patients. It also checks the wind formation in the stomach.

(d) Thyroidinium, 6,30 : It is useful in excessive obesity.

(e) Antim Crude : Third to sixth poteney may be taken. It is useful for children with obese tendency.

(f) Vinegar : Four table teaspoonfuls of vinegar in a glass of water taken in empty stomach reduces fat at the waist.

(g) Lemon and Honey : A glass of water mixed with a tablespoon of honey and lemon taken daily reduces fat.

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6. GENERAL

Vitamin 'B' is good for the treatment of obesity. It is helpful in maintaining metabolism in the body.

Obese patients should take less of carbohydrates and more of proteins.

Dieticians suggest that every individual should take one gram of protein for every two pounds of his or her weight.

If a man of 120 pounds takes 60 grams of protein daily, he will not feel weakness even if he be denied carbohydrates.

Generally obese patients, who give up carbohydrates, suffer from weakness. The remedy lies in increasing the intake of proteins and use of Vitamin B-I.

Dr. Russel Wilder says that lack of Vitamin B-I in food leads to non-functioning of the Thyroid gland which, in turn, upsets the metabolism in the body.

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CHAPTER 19

Food in Old Age

Though it is not possible to measure our food or to calculate each time as to how many calories our food that we take contains yet it is necessary to acquaint oneself with the scientific viewpoint about the food. One should, for instance, know what percentage of carbohydrates, fats and proteins our food contains. This knowledge is necessary because the proper mix of the ingredients of the food has a lot to contribute in preserving youth.

In this chapter we will throw light on the scientific aspect of food.

1. THE PURPOSE OF FOOD

Food mainly serves three purposes : (1) to make up the loss of energy caused by running about here and there during the course of our business, (2) to conserve energy for future use and, (3) to keep building up of the needed cells, fat or bones to preserve and nourish the body.

The first purpose of making up for the loss of energy is served by *Carbohydrates*, the second purpose of conservation of energy is served by *Fats* and the third purpose of building up cells, flesh and bones is served by *Proteins*. These three ingredients which make up our food provide us energy to discharge our daily responsibilities and duties.

The energy, provided by each of these ingredients, can be measured in terms of *Calories*. For instance, it may be stated that one gram of carbohydrate contains energy equivalent to four calories.

In this chapter we will discuss the three principal ingredients of our food—the carbohydrates, the fats and proteins—

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and the respective degree of energy in terms of calories they provide to our bodies.

2. HOW MANY CALORIES OUR FOOD PROVIDES
(How Many Calories are Essential)

(a) The Main Purpose of Calory is to Provide Energy : Whatever one eats produces energy in one's body ; and whatever running about or activity one does result in its loss. If this energy is not produced, neither this loss can be compensated nor can energy be stored for future use.

Just as energy is produced in the engine by the consumption of coal or in the motor car by petrol, in the same manner, energy in the body is produced by the consumption and digestion of food. This energy, in scientific terms is called '*Calory*'. Calory is witnessed in the form of energy. It can be measured in terms of units. Just as length is measured in terms of inches, and weight in terms of grams, the energy procured from food is measured in terms of calories. What is the measure of calory ? The energy used to heat one litre of water to the level of one centigrade is equivalent to the unit of one calory.

To lead a healthy life, it is necessary to have some particular units of calory in the body.

Just to achieve 5 feet length we have to travel 60 inches, similarly to achieve perfect health, we need a definite amount or number of calories.

Now the question arises : How many calories one needs to keep oneself fit and healthy and from where they can be obtained ?

(b) How many Calories are Needed to Keep fit : Dieticians have concluded after research that for healthy life, for every pound of one's weight, one needs, particular units of calories

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which mainly depend on the work one is engaged in. The requirement is also different for men, women and children.

If the intake of calories is not in proportion to the requirements of one's body weight and nature of work, one will not be able to maintain one's health.

If it is less than the requirement, one will become weak and if it is more, one will develop obesity.

3. TABLE FOR CALROIC REQUIREMENT PER POUND OF WEIGHT

The requirements of calories foı different categories of people as per their weight has been determined as follows :

(a) **Those Who do not do Physical Labour** (old etc.) : From 11 to 14 calories everyday per pound of their weight.

(b) **Those Who do Light Physical Labour** (clerks etc.) : From 15 to 18 calories every day per pound of their weight.

(c) **Those Who do Ordinary Physical Labour** (Watchmen etc.) : From 19 to 21 calories every day per pound of their weight.

(d) **Those Who do Hard Physical Labour** (labourers etc.) : From 21 to 25 calories daily per pound of their weight.

The above table shows that if a person has 200 pound-weight and is engaged in *light* physical labour, he needs 200 x 15 or 18=3000 calories daily. (See item 'b' above).

If his weight is 166 pounds, and he does not do any physical exertion, he should choose such food which may provide him around 166×11 or 14=1826 calories daily. (See 'a' above).

According to the special report of I. C. M. S. (Serial 42) the number of calories needed for men, women and children engaged in different types of work is given as under :

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4. TOTAL CALORIES PER PERSON PER DAY

Men	Old :	1200 to 2100 calories daily.
	Doing table work :	2400 calories daily.
	Young doing ordinary work :	2800 calories daily.
	Doing hard work (Labourer etc.) :	3900 calories daily.
Women	Old :	1200 to 2000 calories daily.
	Doing table work :	1900 calories daily.
	Doing light work :	2200 calories daily.
	Engaged in hard work :	3000 calories daily.
	Pregnant women : (6 months)	3300 calories daily.
	Women feeding children for one year :	3700 calories daily.
Children	From 1 to 2 years :	1200 calories daily.
	From 3 to 6 years :	1500 calories daily.

This table has been taken from '*Doctor's Guide*' collected by *Dr. C. L. Gupta* and published by Keshava & Co., 221 Ravindra Sarani, Calcutta—7.

Boys or Girls :	7 to 9 years :	1800 calories daily.
	10 to 12 years :	2100 calories daily.
Youth ;	Male 13 to 15 years :	2500 calories daily.
	Female 13 to 15 years :	2200 calories daily.
	Male 16 to 18 years :	3000 calories daily.
	Female 16 to 18 years :	2200 calories daily.

After knowing that calories are important for the body, it is necessary to know how many of them can be obtained from which source.

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5. FOOD FOR REQUIRED CALORIES
(Carbohydrates ; Fats ; Proteins)

There are mainly three sources of calories in our food. They are carbohydrates, fats and proteins.

What quantity of calories can be obtained by how much food is given below :

1 gram of sugar-oriented food obtained from carbohydrates gives approximately 4 calories.

1 gram of fat, ghee, butter etc. yields 9 calories.

1 gram of protein-food gives 4 calories.

Man cannot live by singly of the three sources. Digestive juices in the stomach are not meant only for carbohydrates or fats or proteins. They are meant to digest all of them. This is why intake of only one of them would not be sufficient.

If the consumption of all of these three ingredients is necessary, the question arises : While selecting food how can one determine as to how much of what should be taken to obtain the requisite units of calories so that we may get enough quantity of calories to maintain our health ? Let us see :

CARBOHYDRATES

(a) How much Carbohydrate we should take : In chapter on obesity we have given a table indicating how much weight men and women should have at a particular height.

We have also mentioned how many units of calories are needed for different types of people regarding their work and age-groups to make up the loss in energy due to decay of bodily cells and to preserve energy for future use.

Dieticians suggest that 50 to 60 per cent of calories needed for our body should be obtained through carbohydrates.

For instance, if a person needs 2000 calories for his body, he should obtain 1200 (60 per cent) calories from carbohy-

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drates alone. Foods which have starch—cereals—*Chapaatis* etc. are all carbohydrates. These produce energy in the body.

Carbohydrates are converted into sugar through a chemical process inside the body. It has already been stated that one gram of carbohydrate gives 4 units of calory.

It means that to obtain 1200 (60 per cent) calories from carbohydrates, a person must take in a day 1200 ÷ 4 = 300 grams of carbohydrates.

If one *chapaati*, on an average, weighs 30 grams, and one's only source of carbohydrates is *Chaapati* alone, then to make up an intake of 300 grams one should take ten *chapaatis* to fil one's quota of the day, that is, 5 *Chapaatis* at one meal. 5 *Chapatis* in the second meal will totally give him 1200 calories.

(b) Gaylord Hauser on Carbohydrates : *Gaylord Houser* in his book '*Treasury of Secrets*' writes, quoting dieticians, that for every three pounds of one's weight, one needs one gram of carbohydrates.

It means that if a person's weight, according to his or her height, works out to 150 pounds, it is enough for him to take 50 grams of carbohydrates which is one-third gram of his weight.

If a woman, for instance, weighs 120 pounds according to her height, intake of 40 grams of carbohydrates would suffice her.

The white sugar used for sweetening purposes has neither vitamins nor any other nutrient element. Honey is better source of carbohydrates than sugar. According to dieticians, one should never worry about sugar because all the food one takes contains it.

The bodily mechanism is such that 65 per cent of whatever one eats, is converted into sugar. This chemical action renders all the sugar one obtains from sweet-meats as surplus.

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The starch of such carbohydrates as '*Chapaatis*' is also converted into sugar. This surplus sugar, then, is converted into fats and accumulates in different parts of the body, such as, the chin, the abdominal muscles and the waist which makes these parts ugly and disproportionate.

One disadvantage of taking excessive sugar is that vitamin 'B' already existing in the body is exhausted in burning it thus causing its deficiency. The deficiency of this important vitamin 'B' in the body leads to other complications. This is why obese people are recommended to take vitamin 'B' as a supplement so that it may burn the extra fat in the body.

FATS

Thirty per cent of the total calories required for one's body according to its weight should be obtained from fats. For instance, if one needs, according to his weight, 2000 calories to fulfil his bodily needs, 600 of them should be obtained from such things as *Ghee*, butter, *malai*, oil etc.

In addition to them, coconut, almond, pistachio, walnut, chestnut, soyabeen are also rich in fats.

We have already stated that one gram of fat gives nine (9) calories. From this point of view, to obtain 600 calories we require $600 \div 9 = 66$ grams of fat.

In a small teaspoonful of *Ghee*, there are 90 calories. Therefore, to have an intake of 600 calories one should consume 6 to 7 small teaspoonful of *Ghee*, that is, 3 or three and a half teaspoonful of it at every meal.

Dieticians say that a young person must take 45 to 60 grams of fat in a day which will give him at least $60 \times 9 = 540$ calories.

Mr. E. V. Cowdry in his book '*The Care of the Geriatric Patient*' writes that an old person should take 50 per cent of carbohydrates and 20 per cent of fats out of the total calories

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needed for his body. *Gaylord Houser* is of the view that even if someone wants to reduce, one should not take less than two table teaspoonful of fat which according to him, can be easily digested.

He further writes that the trouble with people is that they are accustomed to taking too much of fat.

The fats have "*Cholesterol*" which gets stuck up in arteries and capillaries. This leads to Arterio-sclerosis. The deposits of cholesterol in the capillaries makes them shrink and harden them affecting the blood circulation. One falls a victim to blood pressure and heart ailments.

Gaylord Houser attributes even the complaints of gall-bladder to it. In healthy state, gall-bladder keeps on contracting so much that both the bile and the cholesterol are ejected automatically. But when the quantity of cholesterol increases it remains deposited in the gall-bladder even after its contraction. These deposits later take the form of gall-stones.

Vitamin 'B' serves the purpose of burning Carbohydrates and fats. Because fats have cholesterol, vitamin 'B' should be taken to cure troubles pertaining to gall-stone. Vitamin 'A' is good in case of kidney-stone. One should remember that there are two kinds of stones—one in the kidney, the other in the gall-bladder. Kidney stone is dissolved by vitamin 'A'; gall-stone is dissolved by vitamin 'B'.

It should be borne in mind that while there is cholesterol in animal fats like *Ghee*, fat, *malai* etc. the liquid unsaturated vegetable oils are devoid of it.

When liquid unsaturated vegetable oils are made solid to give them a shape of frozen *Ghee* by mixing them with chemicals, then, instead of remaining unsaturated they become saturated and hydrogenated, and in that case, being free from cholesterol, they come to have cholesterol, and therefore, as harmful as *Ghee* or any other animal fat.

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Vegetable oils, pure and liquid, bring down instead of increasing the cholesterol level. Pure vegetable oil has linoleic acid which is not only good for health but also brings lustre to the body. Hence, vegetable oils are much more preferable to *Ghee*, an animal product which contains cholesterol.

In an experiment on animals, a German chemist found that when this linoleic acid was excluded from the food, their skin became rough and their hair dry.

When this acid was again included in the food, their body and hair was restored to their original lustre.

The '*Mustard-seed-oil* (सरसों का तेल) contains 41 per cent ; '*Suryamukhi-seed-oil*' (सूर्य मुखी का तेल) contains 57 per cent ; '*Cotton-seed-oil*' (बिनौलों का तेल) contains 50 per cent ; and '*Soya-bean-seed-oil*' (सोयाबीन का तेल) contains 53 per cent of linoleic acid which has been recommended for health and lustre to the skin.

From health point of view, thus, *Mustard-seed-oil* or any other oil is better than *Ghee*. But what is called *Vanaspati Ghee* is as harmful as animal fats, as it is treated with chemicals to make it a saturated vegetable oil which contains cholesterol and is in no way better than animal fat. Both are equally harmful as both cantain cholesterol.

PROTEINS

Out of the total calory requirement of the body, 10 per cent should be obtained from protein. For instance, if one needs 2000 calories to meet one's bodily requirements, one should obtain at least 200 of them through protein foods. Protein is found in abundance in such pulses as *Cicer Arietinum Linn* (Gram—चने की दाल), *Vigna Munga Linn* (Urad—उढ़द की दाल), *Vigna Radcata* (Mung—मूंग की दाल), *Lens Eschlanum* (Musoor—मसूर की दाल), *Pisum Sativum* (Mutter—मटर की दाल) and *Cajanum Cajan Millup* (Arhar—अरहर की दाल) and dry fruits like *Almond* (बादाम), Cashew nut (काजू), Coconut (खोपरा) and Meat (मांस).

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Protein helps build up flesh and bones. As mentioned above, one gram of protein gives 4 calories. Thus, to get 200 calories, one should take 200÷4=50 grams of protein every day.

One small bowl of watery pulse contains 75 calories. To obtain 200 calories from this sources alone, one would need two and half or three small bowls of pulse during the day.

In 1920, *Dr. Shemrman* of the Colombo University concluded after his research that every individual should take half a gram of protein for every kg. of his weight.

The protein needed by men, women and children of different age-groups has been given in the following table taken from '*Doctor's Guide*' :

Men	**18 to 60 years**	**65 grams**
Women	**18 to 60 years**	**55 grams**
Boys	**10 to 17 years**	**80 grams**
Girls	**10 to 17 years**	**70 grams**
Male child	**6 to 9 years**	**60 grams**
Female child	**2 to 6 years**	**40 grams**

Dr. Gaiord Houser writes that to make up the daily loss of bodily cells, a person needs one gram of protein for every two pounds of his weight.

The '*Weight*' here does not refer to the exact weight one has but what he '*ought to have*' according to his height and sex which we have given on page 216.

For instance, if some man according to his height, should have 150 pounds of weight, he should daily take 75 grams of protein irrespective of what his exact weight is.

Similarly, if a woman, according to her height, should have 120 pounds of weight, she should daily take 60 grams of protein irrespective of what her exact weight is.

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Those who, ignoring this principle, take less proteins than needed by their body, find their muscles and bones loosening and they complain of fatigue.

In every type of available meat, every quarter of a pound has 0 to 25 grams of protein ; half a cup of germinated wheat has 14 grams of protein ; half a cup of Soyabean has 36 grams of protein ; half a cup of crushed seeds of Soyabean has 25 grams of protein ; one cup of Soyabean wheat has 40 grams of protein ; one egg has 8 grams of protein. Thus, Soyabean is best of all proteins.

There are three main sources of energy in the food and the most important of them all are carbohydrates which are the cheapest. Protein is needed the least, but it is the costliest. This is the irony of fate. The body requires 60 per cent carbohydrates, 30 per cent fats, and 10 per cent proteins. Costlier the food, the less it is required for the body. Cheaper it is, the more it is needed for the body. Almonds (अखरोट), Cashewnut (काजू) Walnuts (बादाम) are the costliest among dry fruits and we need them the least. Bread, rice etc. are in comparison very cheap and we need them the most.

6. PERCENTAGE OF CALORIES IN OUR FOODS

What foods we should choose and in what quantity they should be taken in view of the caloric needs of the body are some of the important questions. The table given below will help us answer these questions and decide on the proper mix of different ingredients of food. This table will give exactly what percentage of proteins, carbohydrates and fats a particular item of food contains and what will be its caloric value.

For instance, if we take 100 grams of wheat, in it there will be 11.8 grams of proteins, 1.5 grams of fats and 71.2 grams of carbohydrates. The rest will be residuum. Thus, 100 grams of wheat will have about 345.5 calories because one gram of protein has 4 calories, one gram of fat has 9 calories and one

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gram of carbohydrate has 4 calories. The method of calory-calculation of 100 *grams of wheat* is as follows :

Protein=11.8 (grams)×4 calories=47.2 calories
Fat=1.5 (grams)×9 calories=14.5 calories
Carbohydrates=71.2 (grams)×4 calories=284.8 calories

Total Calories—84.5 (grams of wheat) ; calories 345.5
Residuum—15.5 (gram residuum) ... ...

The table given hereunder will help an individual decide his or her menu according to the bodily needs.

FOODGRAINS—CEREALS

Name of Food	Protein Per cent	Fat Per cent	Carbohy. Per cent	Calories Per 100 Grams
Arrowroot	0.2	0.1	83.1	334
Penmsinm (Bajra)	11.6	5.0	67.1	360
Barley (Jaun)	11.5	1.3	69.3	335
Sorghum (Jwar)	10.4	1.9	74.0	355
Oats	13.6	7.6	62.8	374
Rice	6.6	1.2	78.2	350
Murmure	7.5	0.1	74.3	328
Sago	0.2	0.2	87.7	351
Wheat	11.8	1.5	71.2	346
Fine wheatflour	11.0	0.9	74.1	349

PULSES

Cicer Arietinum Linn (Chanaa)	17.1	5.3	61.2	361
Roastcd arietinum Linn	22.5	5.2	58.9	372
Vigna Mungo Linn (Urad)	24.0	1.4	60.3	350
Vigna Radiata (Moong)	24.0	1.3	56.6	334

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Name of Food	*Protein Per cent*	*Fat Per cent*	*Carbohy. Per eent*	*Calories Per 100 Grams*
Lens Eschlenum (Masoor)	25,1	0.7	59.5	346
Pisum Satium (Muttar)	19.7	1.1	56.6	315
Roasted Pisum Sativum	22.9	1.4	63.5	358
Cajanus Cajan (L) Millsp (Arhar)	22.3	1.7	57.2	339
NUTS				
Almond	20.8	58.9	10.5	655
Cashewnut	21.2	46.9	22.3	596
Coconut	4.5	41.6	13.0	444
Sesamum Indicum (Til—तिल)	18.3	43.3	25.2	564
Groundnut	26.7	40.1	20.3	594
Groundnut (Roasted)	31.5	39.8	19.3	561
Linseed	20.3	37.1	28.8	530
Brasica (Rai)	22,0	39.7	23.8	541
Pistachio	19.8	53.5	16.2	626
Walnut	15.6	64.5	11.0	687
VEGETABLES				
Amaranthus	4.9	0.5	5.7	47
Gourd	0.4	0.1	3.2	15
Sag chana	8.2	0.5	27.2	146
Bitter Gourd (Karelaa)	1.6	0.2	4.2	25
Brinjal	1.3	0.3	6.4	34
Beans	4.5	0.1	10.0	59
Carrot	0.9	0.1	10.7	47
Cabbage	1.8	0.1	6.3	33
Lagenaria	0.2	0.1	2.9	13
Cauliflower	3.5	0.4	5.3	39

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Name of Food	*Protein Per cent*	*Fat Per cent*	*Carbohy. Per cent*	*Calories Per 100 Grams*
Cyamopsis (Ghiyaa)				
Tetiragonova	3.7	0.2	9.9	56
Coriander	3.3	0.6	6.5	45
Dill	6.1	1.0	16.0	97
Cucumber	0.4	0.1	2.8	14
Arumcal acacia (Arvi)	3.0	0.1	22.1	101
Beetroot (Chukandar)	1.7	0.1	13.6	62
Fenugreek (Methi)	4.9	0.9	9.8	67
Lady's finger	2.2	0.2	7.7	58
Salad	2.1	0.3	3.0	23
Makoya	5.9	1.0	8.9	68
Mint	4.8	0.6	8.0	57
Onion	0.9	0.2	8.9	41
Potato	1.6	0.1	22.9	99
Pumpkin (Kaddu)	1.4	0.1	5.3	28
Raddish	0.7	0.1	4.2	21
Lentil	0.5	0.3	4.4	22
Spinach	1.9	0.9	4.0	32
Sweet potato	1.2	0.3	31.0	132
Water chestnut	4.7	0.3	23.9	117
Yam	1.4	0.1	27.0	115
Amorphopha Lius	1.2	0.1	18.4	79
Apple	0.3	0.1	13.4	66
Banana	1.3	0.2	36.4	135
Raspberry	1.8	0.2	11.5	55
Date	3.0	0.2	67.3	283
Fig	1.3	0.2	17.1	75
Grapes	0.8	0.1	10.2	45
Guava	1.5	0.2	14.5	66
Jackfruit (Katahal)	1.9	0.1	18.9	84
Black plum (Jaamun)	0.7	0.1	19.7	83
Gooseberry	2.3	9.6	67.1	364
Sweet lemon	1.0	0.9	11.1	57

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Name of Food	*Protein per cent*	*Fat Per cent*	*Carbohy. per cent*	*Calories Per 100 Grams*
Lemon	1.5	1.0	10.9	59
Mango	0.6	0.1	11.8	50
Water melon	0.1	0.2	3.8	17
Orange	0.9	0.3	10.6	49
Papaya	0.5	0	9.5	40
Peach	1.5	0.2	7.6	38
Pear	0.2	0.1	11.5	47
Pine apple	0.6	0	12.0	50
Plum	0.7	0.2	8.9	40
Pomegranate (Anaar)	1.6	0	14.6	65
Strawberry	0.7	0.2	9.8	44
Tomato	1.0	0.1	3.9	21
Tamarind	3.9	0.1	67.4	283
Prune	0.8	0.1	12.8	70
Emohtrya Japanica (Laokaat)	0.7	0.3	10.2	46

MILK AND MILK-PRODUCTS

	Protein	*Fat*	*Carbohy.*	*Calories*
Cow's milk	5.3	3.6	4.8	65
Buffalo's milk	4.3	8.8	5.1	117
Sheep's milk	3.7	5.6	4.7	84
Woman's milk	1.0	3.9	7.0	67
Buter milk	0.8	1.1	0.5	51
Curd	2.9	2.9	3.3	15
Cheese	24.1	25.1	6.3	348
Skimmed milk	2.5	0.1	4.6	29
Khoyaa (of Buffalo milk)	14.6	31.2	20.5	421
Khoyaa (of skimmed milk)	22.0	1.6	25.7	206

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MEAT

Name of Food	*Protein per cent*	*Fat Per cent*	*Carbohy. per cent*	*Calories Per 100 Grams*
Cow	22.6	2.6	0	114
Crab	8.9	1.1	3.4	59
Egg (duck)	13.5	13.7	0.7	180
Egg (Hen)	13.3	13.3	0	173
Fish	22.6	0.9	0	91
Goat	18.5	13.3	0	194
Pig	18.7	4.4	0	114

We need proteins, fats and carbohydrates to keep our body fit. From the table given above, It is clear that *Proteins* are generally found in pulses, dry fruits and meat ; *fats* in *Ghee*, oils and butter ; *Carbohydrates* in foodgrains, pulses and dry fruits. Besides the calories given in 100 grams the rest is residuum.

The nutritive elements are found both in meat and vegetables, but the main difference between the two is that while in the former, these elements are not in their pure form, in the latter they are received directly from Nature. They grow through the roots which draw filterated, pure water from the earth and mature in the rays of the sun containing Vitamin-D, whereas the meat contains these in adulterated form. In meat, these elements are first received by the animals through vegetables and then procured by us through them. They are thus second hand.

Whereas in meat these factors of food can be mixed up with the poisonous substances within the body of the animals, there is no such possibility in case of vegetables which grow with filterated water and mature in the purest rays of the sun.

As soon as an animal dies, his poisonous excretions in the form of sweat etc. stay where they are and thus decomposition of its flesh begins. Thus, while we procure proteins and fats from animal flesh, the poisonous substances with which they are

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mixed, also enter our body making us the victims of several ailments affecting the lungs, the stomach and the kidney.

For healthy life, it is always safer to obtain fats and proteins through such sources as milk or pure cheese.

There is abundance of fats in almonds, coconuts, groundnuts etc, but they are not easily digestible. The remedy lies in crushing them so much within the mouth that they are converted into milk and cause no digestive problem later.

While obtaining proteins, fats and carbohydrates directly from vegetables, we can avert the possibility of several diseases through infections and germs and ensure longevity of life.

7. THE QUANTITY OF FOOD IN OLD AGE

The more one works the greater is the loss of one's energy. Since energy is received through calories, it means that one will need great intake of calories if one works harder.

Since there is a decline in one's activities in old age, the intake of calories should also be cut proportionately.

Let us say a healthy person needs 2,000 calories. The ideal food for him, according to the table given below from a booklet by late *Mrs. Sudershan Kuppaswamy*, dietician of the Safdarjang Hospital, should be as follows :

Vegetarian Diet	Non-Vegetarian
MORNING	
Lemon tea (if possible without sugar).	Lemon tea (if possible without sugar).
225 millilitre (One glass) of skimmed milk.	225 mililitre (One glass) of skimmed milk.
50 grams bread (Two pieces).	50 grams bread (Two pieces).
3 grams of butter.	3 grams of butter.
One piece of fruit	One egg and a piece of bread,

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Pre-lunch Snacks

150 millilitre skimmed milk or 150 grams of juice (One-cup).	150 milli-litre of skimmed milk or 150 grams of juice (One cup).

Lunch

100 grams flour or rice	100 grams of flour or rice
4 small (*Chapaatis*).	4 small (*Chapaatis*).
25 grams pulse (Big bowl).	25 grams pulse (Big bowl).
100 grams curd of skimmed milk (One small bowl).	100 grams of curd of skimmed milk (One small bowl).
Green vegetables (as much as one likes).	50 grams of fish or chicken
	Green vegetables to one's liking.
10 grams of Ghee or oil (2 spoons).	10 grams of *Ghee* or oil (2 small spoons).
1 One piece of fruit.	1 One piece of fruit.

Pre-Dinner Snacks

150 milli-litre skimmed milk (One cup).	150 milli-litre skimmed milk (One cup).
Tea or coffee (without sugar).	Tea or coffee (without sugar).

Dinner

100 grams flour or rice (4 small *Chapaatis*).	100 grams flour or rice (4 small *Chapaatis*).
50 grams cheese of skimmed milk.	50 grams cheese of skimmed milk.
100 grams curd of skimmed-milk (One small bowl).	100 grams curd of skimmed-milk (One small bowl).
Green vegetables (as much as one pleases).	Green vegetables (as much as one pleases).
10 grams of *Ghee* or oil (two teaspoons).	10 grams of *Ghee* or oil (two teaspoons).
One piece of fruit.	One piece of fruit.

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Post-Dinner (Before Sleeping)

225 milli-liter skimmed milk. 225 milli-liter skimmed milk.

Note : If elderly people want to take sugar or *Jagari* then in place of one *Chapaati* they can take 6 small spoons of sugar.

This menu is prepared as a balanced diet with the assumption that caloric needs of the old persons are around 2000. Some adjustments can be made in this menu after confirming one's weight and height and the nature of work in which one is engaged in the light of the tables given in this chapter.

8. URIC ACIDS IN FOOD

Since accumulation of uric acid leads to many problems in old age, it is necessary to know which food-stuffs contain such acid and which do not.

(a) Food-Stuffs with Uric Acid : Meat, fish, alcohol, pulses, chocolate, coco, strong coffee, strong tea, sweetmeats, all types of proteins, if taken more than 75 grams in a day. All types of meats also abound in such acids.

(b) Food-Stuffs Devoid of Uric Acid : Vegetables, milk cheese, curd, butter-milk, sago, arrowroot, dry fruits, light tea, and light coffee.

(c) Water : If 2½ to 3 kilograms of water is taken in a day, Uric acid is cleared from the system.

9. THE IMPORTANCE OF MILK, CURD AND BUTTER-MILK IN LONGEVITY

Many books have been written on the longevity of life but the most popular among them is '*The Prolongation of Life*' by *Metnikoff*. He has asserted that of all the means to achieve this objective, food is the most important. If right food is not selected, all exercises taken for this purpose will go waste.

He has rightly recommended curd (Yoghurt) and butter-milk as means of increasing the life-span. He says from

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his own observation and experience that people whose main food consists of milk and butter-milk, enjoy unusually long life.

Nature has provided milk to the child right at his birth. Those who cannot digest milk, can take curd or butter-milk as an alternative. All nutritive elements are found in curd.

Mr. M. Grigoroff says that the highest number of persons above 100 are to be found in Bulgaria. Bulgarians take in abundance curd and butter-milk as part of their diet.

Another writer, *Rizley* points out that in Arab countries there is a tribe which lives entirely on the milk of the camel and the curd made of it. The Arabs belonging to this tribe generally cross 100.

Metnikoff asserts that the mere fact that so many people the world over take curd or butter-milk is the proof of its utility in keeping good health and prolongation of life. Sharing his own experience with the readers he says that for eight years he continuously took curd and butter-milk and found it extremely useful for health.

In the U. S. and all over Europe curd is known as yoghurt. One cup of curd mixed with separata powder gives 7 per cent of 2000 caloric needs of an average person. Besides, it has 17.5 per cent protein, 50 per cent calcium and 30 per cent vitamin B-2. This is the reason Bulgarians, who use a lot of curd and butter-milk, enjoy good health and longevity of life.

In Ayurveda, there is a provision of many types of *Kalpas* (कल्प), such as, *Dugdha Kalpa* (दुग्ध कल्प), *Dadhi kalpa* (दधि कल्प), *Takra kalpa* (तक्र कल्प) or *Aamra kalp* (आम्र कल्प). *Kalpa* (कल्प) means that for a specific period a patient is kept entirely on either the curd, or the butter-milk, or the mango juice. These *Kalpas* restore a patient to health and rejuvenate him.

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There was a *Vaidya* in *Kankhal* (U. P.), *Yogeshwar* (योगेश्वर) by name, who used to treat chronic diseases of stomach with these *kalpas*. His *kalpas* used to start in the summer and lasted six months till winter. For the first two months he used to keep his patients on a kind of melon (*Kharboojaa*) with *Sharbat* (शरबत). Then for the next two months, he gave them mangoes with milk. Only Butter-milk (तक्र या लस्सी) used to be the menu for the last two months. One's body was completely overhauled in six months and he felt a new life under this tratment.

In between the *Kalpas*, he used to give *Raambaan Ras* (रामबाण रस); pills of *Aanand Bhairava* (आनन्द भैरव). In case of gastric troubles, he used to administer *Pippali churna* (पिप्पली चूर्ण) or *Lashunaashtak* (लशुनाष्टक, स्वर्ण पर्पटी) or *Panchaamrit parpati* (पंचामृत पर्पटी) or *Swarn parpati* (स्वर्ण पर्पटी).

In case of diarrhoea occurring during the *Kalpaas*, '*Gangaadhar churn*' (गंगाधर चूर्ण) was given. In case there was pain in the stomach, '*Sanjeevani Bati*' (संजीवनी बटी) was given.

Once when my wife's health deteriorated, she was kept on milk along with '*Pippali Churna*' (पिप्पली चूर्ण). The *Kalpa* proved very effective.

I myself used to live only on mango-juice during the summer when this fruit was availiable in plenty. It helped me in improving my health considerably. The juice should be of thin juicy fruits. Unfortunately, now such mangeos of thin juice have become rare.

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CHAPTER 20

Vitamins and Youth

Omission of discussion on *Vitamins* after writing about the role of food in maintaining youth will leave the subject incomplete.

Vitamins have a very vital role to play in the digestion of the important constituents of the food—the carbohydrates, the proteins and fats—which we have discussed in the preceeding chapter.

Vitamins are those elements which are found in a microscopic form in the food products. It is because of their presence that body-cells function properly.

Their absence hampers the growth and development of the body. On the basis of his experiments *Dr. H. C. Sherman* of the Columbia University has concluded that Vitamins are necessary for a long and healthy life.

Since their intake can delay the ill effects of age, their study would be quite within the scope of our present discussion.

While there are a number of Vitamins, much importance is being attached to Vitamins 'A', 'B', 'C', 'D' and 'E'.

1. VITAMIN 'A'

(a) Effect on Eyes : Experiments on rats have revealed that their growth stops as soon as fat is withdrawn from their diet.

In addition, their eyes also begin to swell. Normalcy was restored after some butter and Cod Liver Oil were added to their diet.

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It was found that the element in fat which brought about this normalcy was Vitamin 'A'.

There is a screen in the eyes which is called Retina. We can see outside objects only when it is reflected on this screen. The main element in retina is Vitamin 'A'.

In absence of Vitamin 'A', the eyes cannot stand the glaze of light. The main purpose of Vitamin 'A' is to give strength to the eyes.

The cat can see in darkness but its eyes are dazzled in the light. Some people can see better than others in darkness.

Vitamin 'A' enables them to see better in darkness. In the Second World War a sufficient quantity of Vitamin 'A' was administered to pilots who flew war-planes so that they could see better at night. *Hippocrates* used to give liver to his patients who could not see at night. Liver contains a higher quantity of Vitamin 'A'.

This vitamin is also good in cataract. Vitamin 'A' and 'E' are very good to remove weakness of the eyes.

It is available under the brand name—'*Acquasol*'.

(b) Effect on Skin : Modern experiments have revealed that the effect of Vitamin 'A' is not confined to the eyes alone. It also exerts beneficial influence on nose, throat, trachea and membrane of the alimentary canal.

In absence of Vitamin 'A', the inner (dermis) as well as the outer (epidermis) skin dries up. Crusts start appearing on the skin, hands and thighs. Skin-specialists lay stress on the use of Vitamin 'A' to keep the skin healthy. Famous skin specialists of the New York City, *Dr. Arno Lassazlo* says that persons who complain of dry skin should take plenty of food rich in Vitamin 'A'. It is very useful to take Vitamin 'A' in the case of dry, rough and lifeless skin.

Such patients should take more than 50,000 units of this

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Vitamin daily. Deficiency in this Vitamin also shows up in black or white patches or pimples on the face.

The quantity of International Units with regard to Vitamins 'A' and 'D' was determined by a Committee appointed by League of Nations. With regard to other Vitamins the words Miligram and Microgram are used.

Women, who have used Vitamin 'A' say that dry skin blossoms into smooth one as a result of its intake.

(c) **Effect on Bodily Resistance :** Vitamin 'A' increases bodily resistance and gives power to fight diseases. We can fight with it cough, flu and several other infectious diseases. Vitamin 'C' also has similar property which builds up resistance against infectious diseases.

(d) **Effect on the Kidney-Stone :** Experiments on animals have revealed that if this vitamin is withdrawn from their food, stones begin to develop in their kidneys. It clearly establishes the effect of this Vitamin on the kidney.

(e) **Effect on Genitals :** Experiments carried on rats and pigs show that if this vitamin is withdrawn from their diet, they lose their reproductive power. The menses of the mice are upset and the testicles of the rats are weakened.

Administration of Vitamins 'A' and 'E' restores their sexual activity to normalcy.

(f) **Its use for Children :** Children get 1000 units of Vitamin 'A' from milk. But they should double its intake to build up resistance and strengthen their bodies. Its deficiency leads to rashes. Children are recommended Cod Liver Oil which has both the Vitamins 'A' and 'D'.

A young man requires at least 5,000 International Units of this Vitamin daily to meet his bodily needs. This Vitamin does not dissolve in water but dissolves in fat. Fish liver has the highest quantity of Vitamin 'A'. The efficacy of Vitamin

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'A' increases if Cod Liver Oil is mixed up with Helivat Liver oil. Vitamin 'A' is found in abundance in *Malai* (मलाई—cream), butter, cheese, carrot, green vegetables, turnip, sweet potato etc.

Vitamin 'A' is available in the market in capsule-form. This Vitamin stops the increase of fat. It is not destroyed when heated.

2. VITAMIN 'B'-COMPLEX

Vitamin 'B' and 'E' have a close relationship with the sex life. Vitamin 'E' is major among the Vitamins which strengthen the heart. Deficiency in Vitamin 'B' leads to loss in sperms in men and ova in women. It also results in decrease in sex attraction. According to *Dr. Herts*, all the sex problems in men and women arise due to deficiency in Vitamin 'B'. All the Vitamins in the 'B' family make up some or the other deficiency. One of the vitamins in this family-group of 'B' Vitamins is Pantothenic Acid deficiency of which leads to greying of hair by causing changes in adrenal glands.

Deficiency in thiamine (one of the constituents of B-Complex) results in Goitre. 'B' Vitamin has a special impact on the skin. All the Vitamins in its family keep the skin youthful, removing such complaints as dryness, redness and itching. Vitamin 'B' sharpens the appetite, clears the bowels, induces sound sleep and prevents pimples and eczema.

If taken in large quantity, Vitamin 'B' removes the temptation for alcoholic drinks.

In his book '*Nutrition and Alcoholism*', *Dr. Roger William* writes that when he administered larger dosages of Vitamin 'B' to his patients, they stopped taking drinks, but once this Vitamin was withdrawn, they again succumbed to their temptation.

Since there are many Vitamins in the Vitamin 'B' family, it is known as 'B-complex'. There are 12 Vitamins in this

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family, four considered major, are : (1) Thiamine which is called Vitamin B-1, (2) Riboflavin. which is known as Vitamin 'B-2' (3) Pyridoxine, known as 'B-6' and (4) Cobalt and Mixture of Phosphorus known as Vitamin 'B-12'. As all of these four are very helpful in maintaining health and youthfulness, we are giving their details below.

Vitamin 'B-1' (Thiamine)

(a) **Effect on Beri-Beri** : Beri-beri is a disease in which one develops such complaints as weakness, anaemia, deposit of water in bodily cells, palpitation and paralysis of the legs.

A Dutch doctor in Java has discovered that hens got this disease after eating polished rice. They showed signs of improvement when they were given some other food. Experiments revealed that Vitamin 'B-1' is destroyed in the polished rice. If this Vitamin is taken regularly, it helps in preventing the above mentioned complaints.

(b) **Effect on Appetite** : It has also been observed that absence of Vitamin 'B-1' from food, severely affects digestion. Experiments on rats, pigeons and dogs have shown that absence of this Vitamin, hampers the growth besides affecting the appetite.

(c) **Effect on Muscles, Constipation and Fatigue** : Deficiency in Vitamin 'B-1' results in flabbiness and tonelessness of muscles, constipation and fatigue in the body. Intestines as well as all other internal organs become weak.

(d) **Nervous Tension** : Too much deficiency of Thiamine (Vitamin 'B-1') causes nervous tension. It has been found in experiments on human beings that if there is simultaneous or separate deficiency of Vitamin 'B-1' (Thiamine), Vitamin 'B-6' (Pyridoxine) or Niamicin (which is also Vitamin 'B'), a man becomes restless, irritable and also starts losing his mental balance frequently.

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The balanced combination of Vitamins is very essential for keeping the nervous system under control.

(e) **Effect of 'B-1' on Thyroid Gland** : Obesity is supposed to result from the weakness of the thyroid gland. This gland is on both the sides of the wind-pipe and its main function is to regulate metabolism in the body.

Secretion from this gland mixes up with the blood, keeping the body healthy. If this gland becomes weak or is removed, even a young man begins to show signs of old age. Thus, this gland occupies very important place in retaining youth. The main function of this gland is to keep the body slim, streamlined, active and beautiful.

It also keeps the hair and nails healthy. This gland is described as beauty master. This is why many doctors prescribe medicine made up of this gland for removing obesity and other complaints relating to it. This, however, does not serve any purpose, for a gland works when it is a part of a living organism, not a dead gland.

Experiment on human beings conducted by *Dr. Russel Walter* showed that when their food was deficient in Vitamin B-1, their thyroid gland stopped functioning. When this Vitamin was restored, it became active again. It is, therefore, clear that instead of giving any medicine made of thyroid gland it is better to give Vitamin B-1 to remove its weakness.

Enlargement of the neck is also caused by the weakness of this gland. When this gland becomes weak, it automatically gets enlarged so that it can discharge the function of metabolism properly. To cure it doctors give either *Iodine* or administer some medicine made of this gland. The proper treatment, however, consists of Vitamin 'B-1' which will help in the proper functioning of the Thyroid gland.

In our ordinary food, very little of Vitamin 'B-1' is present. It is present in very small quantity in fruit juices. It is present particularly in *Brewer's yeast* and *geriminated wheat*.

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The wheat can be germinated by keeping its grains (seeds) in water. Like *Wheat* seeds, *gram* seeds can also be germinated. *Sago* is also a good source of this Vitamin. One should also take a big teaspoonful of Brewer's yeast. The main source of this vitamin is Liver. According to the food and Nutrition Board, men need 1.2 to 1.8, and women 1.5 miligrams of this Vitamin daily. This quantity can be increased if a person is engaged in a work which requires a lot of running about. It is destroyed by heat and alkaline products, but it is not destroyed in acidity.

'B-1' does not suit some persons. It causes Urticaria on their body. It should be discontinued as soon as any such symptom appears. Glaxo company sells 'B-1' under the brand name '*Berin*'.

Vitamin 'B-2' (Riboflavin)

The main effect of this vitamin is on eyes. Its deficiency in food causes swelling, redness, itching, burning or watering of the eyes. The eyes canot stand light of glaze and get fatigued very soon.

(a) Effect On Eyes : When eyes develop such symptoms, not only 'B-2' but vitamins of all the 'B'-group should he given in larger dosage. Experiments on rats, hens and monkeys have revealed that if Vitamin 'B-2' is withdrawn from their food, their eyes develop signs of cataract. Vitamin 'A', Vitamin 'B-2' and Vitamin 'C' are very good for eyes. If a cataract patient is given all these Vitamins, it can be very useful for him.

(b) Effect On Skin : Like Vitamin 'A', 'B-2' also exerts beneficial influence on skin.

Almost all the vitamins of the vitamin 'B'-group bring lustre to the skin. It also removes black and yellow spots on the face known as liver-spots.

Deficiency of 'B-2' causes the skin to become dry and red, besides making it burn. Taking fruit juice rich in Vitamin 'B-2'

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brightens the colour of the skin. *Dr. Thomas Hyman* says that all the 'B' vitamins of the 'B'-group are present in the 'B-complex' tablets. They do not do any harm. On the other hand, they are good for every body.

Riboflavin, that is, Vitamin 'B-2', is necessary for prolonging youth and preventing old age. According is *Dr. Kul Ranjan Mukarjee*, Almond (बादाम) contains riboflavin and so, is very useful diet for prolonging youth. (See his book : '*Preventive Foods in Health and Disease*', p. 206).

However, some people can be allergic to 'B'-Vitamin as the base of all its tablets is Liver. It is, therefore, preferable to take Brewer's Yeast, wheat germ, skimmed milk or butter milk which give enough of Vitamin 'B-2' required by the body.

Vitamin 'B-6' (Pyridoxin)

(a) **Effect on the Hardening of Arteries** : We have mentioned in the beginning of this book that in old age the arteries lose their flexibility and are hardened because of various deposits.

In 1947 *Dr. J.R. Moreton* wrote a book on hardening of arteries. In his experiments he found that when some fatty substances enter the body through food, then arteries become hardened. The amount of blood pumped by the heart remains the same, but due to the inelasticity of arteries and their narrow ness the rate of flow of the blood rises. This is called *High Blood Pressure*. To find out the element in fat which caused the rate of flow of the blood high he started feeding animals on one of the consituents of fat—*Cholesterol*. Feeding of cholesterol to animals resulted in the hardening of their blood vessels. This experiment proved that it was fat—which contains cholesterol—which was the cause of obesity as well as High Blood Pressure.

Drs. Steiner, Morrison, Hermann etc. embarked upon experiments to find out if the adiministration of Vitamin 'B' could

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neutralize the effect of cholesterol. They came to the conclusion that if Vitamin 'B-6' is given along with some other Vitamins of 'B'-faimily—such as, Inositol and Choline—then despite cholesterol, hardening or narrowing down of arteries does not take place.

Dr. Harrison's experiments proved that if the blood had a greater quantity of fat, the arteries would be hardened and vice versa.

Vitamin 'B-6' has a special role to play in destroying Cholesterol in fat.

If hardening of arteries can be checked in old age, the consequent High Blood Pressure can be prevented.

Vitamin 'B' is useful in preventing the formation of gall-bladder stone by destroying cholesterol. It may be noted that Vitamin 'B' destroys the *gall-bladder* stone, and Vitamin 'A' destroys the stone in the *kidney*.

We have already mentioned about it in Chapter 19 quoting from *Gaylord Hauser's* book : '*New Treasury of Secrets*'.

(b) Effect on Nervous Tension and Emotional Imbalance : We have mentioned while discussing 'B-1' that its deficiency leads to weakness in the nervous system.

At the root of all emotional disturbances lies the deficiency of Vitamins. Perhaps, persons, who pass through such disturbances too aften, have been deprived, for long, of food rich in Vitamins, particularly of the 'B-group'. Chief among the Vitamins of this group are : Vitamin 'B-6' and Niacin.

(c) Effect on Resistance Power (Anti-Bodies) : Some elements in the blood give it resistance against diseases. 'B-6' has also got this property. It infuses such a resistance-power in the blood that the body does not fall an easy prey to infections.

(d) Anaemia And Diarrhoea : One of the forms of 'B-6' is *Folic Acid*. Its main function is to build red blood cells. When

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a women suffers from anaemia during pregnancy, she is given its injection. *Folic Acid* is also good in diarrhoea.

It is wrong to presume that Vitamins have their effect individually or separately, on different diseases. It is now an acknowledged fact that all of them act simultaneously.

If one wants to rely on medicines, then tablets containing such vitamins as 'B-1', 'B-2' and 'B-6' are available in the market. But the author of the '*Treasury of Secrets*', *Gaylord Hauser* suggests that instead of Vitamin tablets, one should better take such foods which are rich in these Vitamins. For example, he says : One cup of Yogurt (curd), 2 tablespoons of Brewer's yeast, half a cup of germinated wheat and half a cup of dried skim milk together give seven times the Vitamin 'B-1', twice the Vitamin 'B-2' and 130 percent of 'Niacin' necessary for a person. Along with these Vitamins, one will have the benefit of other Vitamins of the 'B'-group, such as 'B-6'.

'B-6' is particularly present in potatoes, oats, wheat-germs bananas, cabbages, carrots etc. It is not so much in milk and eggs.

According to *Gaylord*, molasses should be taken in place of sugar (white). Molasses contain a high degree of Vitamin-'B' and iron.

The above natural foods containing Youghurt (Curd) etc. have been described by *Gaylord Hauser* as wonder-foods.

Vitamin 'B-12' (Mix of Cobalt and Phosphorus)

Pernicious Anaemia : It has been discovered after experiment that Vitamin 'B-12' is more useful than Folic acid for the treatment of pernicious anaemia. When the researchers discovered that liver was good for treatment of anaemia, they applied themselves to find out as to what was that particular element in the liver which helped in the cure.

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Earlier, Folic acid was supposed to be a panacea for anaemia but later on it was found that all types of anaemia were not curable by it.

In 1948, 'B-12' was extracted from liver and administered to chronic patients establishing that it was this element which proved most effective. Since then, Vitamin 'B-12' is replacing Folic acid for the treatment of pernicious anaemia.

For treatment, its quantity has been fixed from 6 to 150 microgrammes. Its store-house is the liver. It is not known if it is present in any other stuff. By the discovery of Vitamin 'B-12' the cure of pernicious anaemia has become easy.

3. VITAMIN 'C'

Dr. H. C. Sherman says that Vitamin 'C' is very essential for youth and longevity. Its special feature are as follow :

(a) Power of Resistance : Of all the Vitamins, 'A' and 'C' are most effective in fighting infections. It is well-known that when 'A' and 'C' become scarce in famine or war, there is a considerable increase in the infectious diseases. According to *D. King* and *Menton*, even diphtheria can be prevented by taking sufficient dosage of Vitamin 'C'.

Dr. Kesar says that streptococcus germs cannot develop in tonsils of those persons who regularly take Vitamin 'C'. In infectious diseases affecting the throat and the lungs, Vitamin 'A' is more effective. The main function of Vitamin 'A' is to keep the wind-pipe healthy. Bacteria can overpower a man only when there is a deficiency of Vitamin 'C' in the body. Both Vitamin 'A' and 'C' have resistance power.

(b) Bleeding of Teeth, Gums and Other Organs : To chew one's food properly, one must have strong teeth, and for strong teeth, one must have healthy gums. Vitamin 'C' deficiency weakens the gums which begin to bleed.

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Vitamin 'C' strengthens the cells of gums, it serves the purpose of cement. Those people who are deprived of Vitamin 'C' for long, develop a disease called Scurvy. In this disease one complains of restlessness, loss of appetite, intolerance to touch, boils in mouth, weakening of the gums, bleeding, black and blue spots, swelling of legs, pain in joints, anaemia etc.

Deficiency of this Vitamin also hardens the capillaries, they lose their flexibility. A little scratch results in bleeding. Bleeding, once started, does not stop. Vitamin 'C' prevents weakening of the capillaries by maintaining their flexibility and power of resistance.

(c) **Arthritis** : Experiments in laboratory have revealed that when this Vitamin was withdrawn from the food served to animals, their joints began to swell and pain.

It is, therefore, evident that it is useful in case of swelling and pain in joints.

(d) **Effect on Cataract** : Researchers have discovered that the eye-lens, which when blurred causes cataract, needs the greatest quantity of Vitamin 'C', next only to the endocrine gland. They have also found that cataract patients have deficiency in this vitamin. This Vitamin is essential to keep the capillaries in good shape and health.

Thus, it can be concluded that Vitamin 'C' has great role to play in delaying cataract. We have already mentioned that besides Vitamin 'C', Vitamin 'A', Vitamin 'E' and 'B-2' also occupy a significant place in the prevention and treatment of cataract.

Vitamin 'B-1' and 'C' go out of the body with perspiration and so their intake should be increased in summer. This Vitamin is found in ample quantity in fruits. It is also found in soyabean, tomato, orange, lemon etc. 2 or 3 glasses of

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juice of the above fruits are enough for a day. The little red bud under the rose flower contains twenty times the quantity of Vitamin 'C', compared to tablet. One *Anwalaa* (आंवला) serves the purpose of many oranges.

4. VITAMIN 'D'—(CALCIFEROL)

(a) **Useful in Absorption of labium and Phosphorus in the Body :** The absorption of calcium and phosphorus in the body is essential for its harmonious growth. One's restlessness will increase in proportion to his calcium deficiency. But calcium becomes useless in absence of phosphorus.

There is such a chemical relation between calcium and phosphorus that they are useless in absence of each other. Vitamin 'D' ensures that both calcium and phosphorus, while being together, are absorbed simultaneously in the body. Milk, skimmed milk, separata, curd, butter-milk, cheese contain Calcium. Phosphorus is present in foodgrains and vegetables.

Both—Calcicum and Phosphorus—combined support the structure of the body. We need them both, particularly, after 40. The importance of Vitamin 'D' lies in the fact that it helps in their absorption. Without Vitamin 'D' Calcium and Phosphorus do not combine and are not absorbed in the body.

Neither milk nor curd contains Vitamin 'D', the chief source of which is the sun. To obtain it, therefore, we must bask ourselves in the sunshine so that we may get an abundance of Vitamin 'D' from the rays of the sun to enable the body to be benefitted by both calcium and phosphorus. Vitamin 'D' will provide calcium to the body and phosphorus will help absorption of calcium in the body.

Lack of calcium not only makes one restless, it also causes insomnia. After 40 one needs at least 1000 units of Vitamin 'D'. Vitamin 'D' is produced by our skin exposed to the sun-light. If we cannot get it, Cod Liver Oil capsules

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which contain Vitamln 'D' can be taken to make up the deficiency of this Vitamin.

(b) **Myopia:** Experiments on dogs have revealed that Vitamin 'D' deficiency affectes their eye-sight. While they can see things near to them, their sight for distant things becomes weak. This is called myopia. If Vitamin 'D' is given to children, their eye-sight can improve.

(c) **Vitamin 'D' for Weak Persons :** As mentioned earlier, failure to absorb Calcium makes a person, thin. Since Calcium cannot be absorbed without Vitamin 'D', thin persons should bask themselves in the sun. However, there should be no excess.

(d) **Rickets** : Due to Calcium deficiency among children their bones become weak and their legs lame. Sometimes, their teeth begin to decay. In such cases, childern are given Cod Liver Oil because it contains Vitamin 'D'. This helps absorption of Calcium, and unless it is absorbed, it is of no use to the body, but its absorption can take place only when Vitamin 'D' is present.

Old persons also need Calcium. Therefore, this Vitamin is also good for them. A survey conducted in Delhi (Published in *Indian Express* of April 6, 1976) showed that women living in the walled city—particularly in such areas as *Turkman Gate*, *Jama Masjid*, *Sitarm Bazar*, and other *Katras* which are deprived of sun-light—suffer from the disease called *Osteomalacia* (morbid softening of bones) in which they cannot walk properly, their backs are bent and they suffer from back-ache. The cure lies in their exposing their body to the rays of the sun so that they may get the benefit of Vitamin 'D'.

5. VITAMIN 'E'

(a) **Complaints Relating to Menses :** During menopause women generally complain of pain in the back and excessive bleeding. These complaints can be overcome by administration of 50 to 100 miligrams of Vitamin 'E'.

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(b) **Blood Pressure and Bodily Pain :** This vitamin is beneficial in case of high blood pressure and muscular pain.

(c) **Good for Heart :** Vitamin experts are of the view that Vitamin 'E' occupies the first place among other Vitamins in strengthening the heart. Vitamin 'B' and 'E' remove many complaints relating to the heart.

(d) **Useful for Reproductive Organs :** Vitamin 'A' and 'E' have a special significance in the reproductive process. Deficiency of these Vitamins leads to loss of sperms among men and ova among women. It is found in abundance in wheat germs. In market it is sold by Boot company under the brand name *Ephynol.*

(e) **For Retina :** Vitamin 'A' and 'E' help the eyes. It is sold in the market under the brand name of *Aquasol,* marked red. Please see the item 'A' in this chapter.

6. SYNOPSIS OF THE USES OF VITAMINS

Vitamin 'A'	:	Effect on eyes; on skin; helps bodily resistance; removes kidney stone; useful in restoring reproductive power; strengthens the body of children; 'A' & 'E' for night blindness; 'A' and 'E'—a combination prevents the detachment of retina.
Vitamin 'B-1' (Thiamine)	:	Effect on Beri-Beri : on appetite; on muscles; constipation and fatigue; on nervous tension; on effect on thyroid gland.
Vitamin 'B-2' (Riboflavin)	;	Effect on eyes; on skin.
Vitamin 'B-6' (Pyridoxin)	:	Effect on hardening of arteries; Nervous tension; emotional imbalance; helps in resistance power; anemia; diarrhoea.
Vitamin 'B-12' (Mix of cobalt and phosphorus)	:	Pernicious anemia.

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Vitamin 'C' : Gives power of resistance; useful for bleeding of teeth; bleeding of gums and other organs ; arthritis ; useful in cataract.

Vitamin 'D' (Calciferol) : Useful in absorbing calcium and phosphorus in the body; Myopia ; weakness ; Rickets.

Vitamin 'E' : Complaints of menses of women; blood pressure ; bodily pains; useful for heart; useful for reproductive organs; helps safety of retina of the eye. A combination of 'A' and 'E' Vitamins, as preventive for detachment of retina, is available in the market known as Aquasol capsules.

Note : 'B-Complex means 'B-1', 'B-2', 'B-6', 'B-12'. Hence, instead of taking them separately they can be taken in the form of 'B-Complex.'

7. DISEASE FOR WHICH ABOVE VITAMINS ARE RECOMMENDED

Arthritis	: Vitamin 'C'
Anemia	: Vitamin 'B-6'; Vitamin 'D'
Appetite	: Vitamin 'B-1'
Arteries (Hardening)	: Vitamin 'B-6'
Beri-Beri	: Vitamin 'B-1'
Bleeding	: Vitamin 'C'
Blindness	: Vitamin 'A' and Vitamin 'D'
Blood Pressure	: Vitamin 'E'
Cataract	: Vitamin 'C'
Calcium Deficiency	: Vitamin 'D'
Children (for strengthening)	: Vitamin 'A'
Constipation	: Vitamin 'B-1'
Diarrhoea	: Vitamin 'B-6'

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Emotional Distrubance	:	Vitamin 'B-6'
Eyes	:	Vitamin 'A'; Vitamin 'B-2'; Vitamin 'D'; Vitamin 'E'
Fatigue	:	Vitamin 'B-1'
Gall-Bladder Stone	:	Vitamin 'B-6'
Genitals	:	Vitamin 'A'; Vitamin 'E'
Gums (Bleeding)	:	Vitamin 'C'
Hair	:	Vitamin 'B-1'
Hardening of Arteries	:	Vitamin 'B-6'
Heart	:	Vitamin 'E'
Kidney Stone	:	Vitamin 'A'
Limbs (Bleeding)	:	Vitamin 'C'
Menses	:	Vitamin 'E'
Muscles (Pain)	:	Vitamin 'E'; Vitamin 'B-1'
Myopia	:	Vitamin 'D'
Nails	:	Vitamin 'B-1'
Nervous Tension	:	Vitamin 'B-1'
Pain (Body)	:	Vitamin 'E'
Pernicious Anemia	:	Vitamin 'B-12'
Reproduction	:	Vitamin 'A'; Vitamin 'E'
Retina, (*Detachment*)	:	Vitamin 'A' and 'E'—a combination of both.
Resistance	:	Vitamin 'A'; Vitamin 'B-6'; Vitamin 'C'
Rickets	:	Vitamin 'C'
Skin	:	Vitamin 'B-1'; Vitamin 'B-2'
Stone (Kidney)	:	Vitamin 'A'
(Gall Bladder)	:	Vitamin 'B-6'
Thyroid Gland	:	Vitamin 'B-1'
Weakness	:	Vitamin 'D'; Vitamin 'B-6'

8. BIOCHEMIC MEDICINES

We have seen that Vitamins contain those elements which are found in microscopic form in our food. The quantity of their consumption is in miligrams. One miligrams is equivalent to 1.1000 grams or 0-01543 grams (See Oxford Dictionary).

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Thus Vitamins are almost invisible. They are as invisible as tissue remedies in Biochemistry of *Shussler*. Shussler and after him *Hering* were of the view that like lack of vitamins the lack of 12 elemental substances named by him as *Tissue Remedies* in the body was cause of many diseases.

The consumption of foods which are rich in these biochemical salts helps to prevent many diseases. If these salts cannot be obtained through food, they can be given in the form of bio-chemical tissue salts which are 12 in number : *Calcaria Fluor, Calcaria Phos, Calcaria Sulph, Ferrum Phos, Kali Mur, Kali Sulph, Mag Phos, Natrum Mur, Natrum Phos, Natrum Sulph and Silicea.*

Thus the underlying principle behind the Vitamin deficiency and the tissue salt deficiency is the same.

According to Bio-chemistry, deficiency in the salts in food causes diseases in the body. Here are some of the complaints in which the relavent Bio-chemic salts are suggested :

(a) Effect on Nerve Cells : Lack of *Magnesia phos, Kali phos,* and *Calcaria phos* leads to insomnia, pain and hampers growth. As we saw earlier while writing on Vitamins, *Calcium* and *Phosphorus* work only in chemical combination, not separately; similarly, in Bio-chemistry *Calcalia Phos* which is given in the above mentioned complaints is a salt in which both Calcium and Phosphorus are combined.

(b) Effect on the Muscle Cells : *Kali mur* has a good effect on the cells of the muscles.

(c) Effect on Connective Tissues : These cells are influenced by *Silicea.*

Effect on Bone Cells : *Calcaria Fiuour* and *Calcaria Phos* have good influence on bones. *Calcaria phos* is particularly useful in such diseases as Osteomalacia, Rickets and Cataract.

(e) Effect on Mucous Cells : *Natrum Mur,* which is given in flu has good effect on mucous cells.

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In our opinion better results can be obtained if tissue remedies of Bio-chemistry are given side by side with Vitamins as pointed out earlier because the underlying principle in both is the same. Bio-chemic medicines are given in 3x, 6x or 12x potencies. They are also available in 30 x or 200 x. The prescriber has to decide in what potency to give the medicine. Writing on *Kali phos* in '*Homoeopathic Materia Medica*' *Dr. Kent* says : "The high and highest potencies have served the best, and it should be used in the single dose."

Loneliness a Major Affliction of Old Age

Shri R. K. Tiwari reports in **Indian Express** Delhi edition, dated 12-1-1983 :

"After heart attack, cancer and asthma, the 'disease' that takes a heavy toll of people in Britain is loneliness and boredom which causes depression and schisophrenia", In Britain today ten million people draw old age pension, 600,000 of them are over 85. In ten years the figure will have increased by one fifth. One in seven of them over 75 suffers from some type of mental disorder".

"In parks and on roadsides, one can see old men and women walking their dogs around and talking to them as they would with their children. 'This dog is my best friend. He talks to me and I talk to him. I spend on him more than what I did on my child. This dog takes care of me and wipes out my boredom. But my son ? I do not know where he is—one old lady said".

This is the result of ultra-materialism and break-up of old joint-family system.

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CHAPTER 21

Sexual Purity and Youth

Those who call themselves modern say that sexual indulgence is important for men and women to maintain good health. There is no dearth of doctors also who consider even masturbation to be beneficial for health of youngmen.

In 1923, I had written a book on celibacy (*Brahmacharya*—ब्रह्मचर्य). While it was praised by some papers, others termed me as a backward orthodox writer.

Some days ago a doctor had expressed the view that sexual intercourse forms part of treatment of the heart ailment.

The object of books written in Europe on health and youthfulness has always been to propagate ways and means as to for how many years of one's life one can maintain one's sexual power. They think that maintenance of youthfulness means the continuance of the capacity for sexual indulgence.

The conservation of semen (वीर्य) through celibacy for prolongation of life and youth is a concept which took its birth in India. In other words, it is a discovery of Indian *Rishis*.

The concept of sexual indulgence takes its roots in the materialistic thinking of the modern Age ; it has no scientific basis. What has been said in the *Vedas*—ब्रह्मचर्येण तपसा देवा : मृत्युं अपाघ्नत—'through *Bramacharya* alone people of divine thought conquer death'—that alone is the truth ; that alone is scientific. There is another *Vedic* saying—मरणं बिन्दुपातेन जीवनं बिन्दुधारणात्—'the loss of semen is death and its absorption in the body is life'—this also is a veritable scientific truth. A little knowledge of physiology will convince the reader of this fact.

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According to physiology the sex-glands in the body cause two types of secretions : external secretion and internal secretion. The health, the strength, the beauty, the longevity—all of these depend on internal secretion.

Like other glands, ovaries among women and testicles among men are the glands which are responsible for internal as well as external secretion.

The external secretion of women is called 'ovum' and of men is termed 'Spermatozoon'. Their plural is 'ova' and 'spermatozoa'.

Life is born as a result of the union of these two secretions. Like the external secretion—both the ovaries and the testicles —have internal secretion too in the form of sex hormones.

These internal secretions are responsible for keeping men and women healthy and for prolonging their lives.

Dr. Stanach of Vienna has boldly expressed the view that if the internal secretion were to be absorbed in the body instead of being lost, it can revitalize the entire system.

When this principle was enunciated as a means to combat old age, there was a widespread uproar not only in Vienna but in the whole of Europe.

Dr. Stanach started doing operations upon old people by closing down Vas deferens—the tube which carries external secretion outside the body for fertilisation—to ensure that external secretion was closed and only internal secretion worked inside.

Dr. Stanach held the view that if external secretion was stopped, it would change its course towards inside, adding to the internal secretion and thus paving way for a long and healthy life.

Dr. Stanach was partially right and partially wrong. There is no room for doubt that absorption of internal secretion in the body will result in health, strength, vitality and longevity,

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but to believe that external secretion will change its course is not correct.

External secretion is the result of the human lust. So long as this lust continues to assail the mind of man, the above operation may serve the purpose of planning out his family, but his mental disturbance will not stop.

We will discuss the question of mental disturbance later, but it is enough to stress here that absorption of internal secretion in the body prolongs life, and this *Vedic* concept has been accepted even by the physical scientists.

It was after comprehension of this principle that the sages of yore had pronounced that absorption of semen can prolong life, and its loss can pave the way for death and destruction.

One who practised this principle in life was given the title of '*Urdhva Retaa*' ((ऊर्ध्व रेता) or '*Aaditya Brahmacharari*' (आदित्य ब्रह्मचारी).

The *Vedic* concept is that man can overcome diseases of the old age by the preservation of semen, and by its loss, he digs his own grave cutting short his life,

There are many examples of it in the animal kingdom, some of which we are giving below :

Havelock Ellis in his book : '*Erotic Symbolism*' writes (page 168) that it is not difficult to imagine the dangerous repercussion of sexual activity when we realise the stimulation, the disturbance one passes through during the whole process.

The disastrous effects of sex-act have also been noticed among the animals. Even very healthy and strong bulls and horses have fallen unconscious after the sex-act. The pigs have also met with the same fate. The mares are reported to have fallen and died during the sexual intercourse.

In the case of human beings, particularly men, the excessive mental stimulation during the sex-act has not only

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caused death but also led to nervous tension, breakdown and aberration of the mind.

It has been found among the youth that after the sexual act, they have suffered from fatigue, loss of consciousness, vomitting etc. It is not uncommon to have a fit of epilepsy during or after the sex-act.

When old persons indulge in sex-play their blood pressure rises and they find it difficult to cope with it. As a result they fall an easy prey to brain hemorrhage or paralysis.

A number of old persons have reportedly died during the course of the sex-act.

There are several instances when famous persons died when locked in the embrace of prostitutes while doing the act.

Dr. Kellog in his book : '*Plain Facts*' writes (page 134) that when a female honey-bee takes a flight towards the sky to fulfil her lust, hundreds of male-honey-bees follow her and it is observed that whosoever has an intercourse with her, dies in convulsions on the spot.

Dr. Kellog has also observed that male butterfly has a very strong smelling power, and it can smell the presence of the female butterfly from a distance of several miles.

As it grows and is capable of flying, it approaches the female butterfly after flying over several farms, bushes and forests and dies soon after an intercourse with her.

Among the ants, whichever male ant embraces the female ant, dies on the spot.

Dr. Stall in his book : '*What a Young Husband ought to Know*' writes (page 76) : "Like honey bees, butterflies and ants, there are examples of human beings losing their lives as a result of the sex-act. This condition is particularly found in the fish. It has been observed that as the time of conception comes near, her body is surcharged with life and energy and parts of

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her body start developing. But as she delivers the eggs, which are in thousands, she becomes so weak that she cannot survive long. Only one among thousands survives. *Geddes and Thompson* in their book : '*Evolution of Sex*', on page 152, write that "the true statement as far as history furnishes an answer, is not that animals reproduce because they have to die, but that they die because they have to reproduce". As *Coethe* says. 'It is not death that makes reproduction necessary, but reproduction has death as its inevitable consequence.'

Dr. Macfaden observes : 'Every drop or particle of the secretion of these glands is appropriated by the system for constitutional purposes as soon as generated, and the result is the incessant activity, rapid growth and vigorous health that we observe in normal boyhood. The boy who springs from sexually vigorous and healthy parents, and who inherits from them a sound generative organism, will be sound and strong, full of fire and life and boyish activity – the kind of a boy that is constantly up to something'.

He says in '*Encyclopaedia of Physical Culture*' on page 2772 : 'One ounce of seminal fluid is estimated by some authorities as being worth forty ounces of blood, and by others, being equivalent in energy to sixty ounces of blood.....yet we know, positively, that this life-bearing fluid is the richest secretion of the entire body, and that it is indispensable to the development and maintenance of all the essential attributes of perfect manhood.'

Dr. Gardener as quoted by *Dr. Kellog* in *Plain Facts* (p. 569) says : 'The sperm is the purest extract of the blood. Nature, in creating it, has intended it not only to communicate life, but also to nourish the individual life. In fact, the reabsorption of the fecundating liquid impresses upon the entire economy new energy, and a virility which contributes to the prolongation of life.'

Children whose parents refrain from excessive sex activities manifest health and brightness in their bodies and keep active.

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As children remain active and keep doing something or the other, the celibates never feel fatigued and are active throughout their life.

Whatever the so-called modernites might say, everyone—the adolescent, the youth and the old—must realise that loss of semen is death and its preservation is life.

The opinions quoted above are not of laymen but medical scientists. It is clear from the above that celibacy is a necessary condition for the old to combat their troubles.

Though observation of celibacy is good for all ages, it is particularly a boon in the old age. Loss of semen in old age is an open invitation to death.

Those who propagate that sexual activity is good for health in the name of psycho-analysis, or psychosis, popularised by *Freud*, only misguide and confuse the people and motivate them towards excessive sex indulgence.

What do *Freud* and his fellow psycho-analysts actually say ? They say that if a man does not satisfy his sexual desires after they have possessed his mind and created tension, he will suffer from mental imbalance and aberration.

But, certainly, *Freud* does not advocate that one should unnecessarily entertain such desires and allow them to overpower him. The principle underlying the pronouncement of *Freud* and his followers is that sexual desires cannot be suppressed ; they only sink in the sub-conscious, becoming more active there and continuously disturb the mind. But, which are these desires ? These are the desires which we do relish within ourselves ourself though regarded ill by society. Since we are afraid of the society, we suppress them. Even while suppressing these desires, we relish and enjoy them within, without however manifesting them in our outward behaviour.

In such cases, what is the guarantee that these suppressed desires will not do any harm ? These suppressed desires,

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instead of being destroyed gain strength just as the vapours of boiling water covered by a lid in the kettle gain strength.

Our ancient thinkers had rightly observed—वनेपि रागा : प्रभवन्ति योगिनाम्—'even if one runs away into jungle the lustful desires follow him, they do not vanish by artificial methods of escape'.

It appears that *Freud and Vedic thinkers* are propagating opposite theories, but when we enter into the basis of their thought, they are practically saying the same thing, conveying the same idea. The real thing is the inner thought. When we suppress a lustful desire, not because it is evil, but because of the fear of society, then the desire is not destroyed, on the other hand being suppressed it becomes more active creating mental tension and aberration in behaviour. When, however, knowing and realizing that it is evil, we shake it off our mind, then we behave as if we have let the vapours off the kettle. We do not let the vapours gather strength, we do not let the fires smoulder inside. There is a world of difference between suppressing the desires on account of the fear of society, and the idea of destroying them, root and branch, by means of the ignition of knowledge which opens our eyes to the ill-effects of desires. Suppression of desires due to the fear of society means relishing and enjoying them within the mind. This creates aberration and tension, but their destruction after fully realizing the consequences is not suppression and cannot create tension. In this case, desires are not suppressed, but one gets rid of them. Besides, *Freud* also does not advocate free play of sexual desires, he also suggests their sublimation.

From this point of view the life of celibacy is the life of sublimation. There is a great power in semen which can be utilised both for satisfying the lust as is being done today or for the achievement of some higher object in life by sublimation of the sex-energy.

Do great men have no sexual desires ? Well, they do have such desires. But they get so much involved and absorbed in the achievement of the goal they have set

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their heart upon that their entire energy is spent in its achievement. Such people who have dedicated their lives for the achievement of a great objective can properly delay or avert the ill-effects of old age; and those who spend it for satisfying their sexual urges, end up like butterflies, ants, honey-bees and fish.

Whatever the Westerners might say or write, there is no room for doubt in the fact that any loss of semen is a step towards old age. Whatever we might assert in the name of science, is it not everybody's experience that after the seminal discharge, one feels like lying in bed. Why ? Why, if not because by this, one feels debilitated, lifeless and lost, and wants to recuperate and make good the loss one has suffered. It may relieve the stress for a moment, but for a moment only, for the stress lies in the mind.

When this is what happens even in case of a young man, one can well imagine the plight of an old person. This is why celibacy is all the more important for old men.

Some people marry in old age. Even after arriving the age of 60-70, their desires remain unsatisfied. They do not have control over their senses. Those who cannot, even in their old age keep off from sexual desires should give up all hopes to lead a healthy, vigorous life.

THE PLAN OF LIFE IN OUR COUNTRY

In our country, there was a provision of observing celibacy for first 25 years. Then, 25 years of married life. After that one was to enter *Vaanaprastha*, the main purpose of which was to again resort to celibacy as a way of life. This meant complete absorption of internal secretion in old age.

In our country, the plan of life was chalked out in such a manner that it kept the objective of long and healthy life as its central point. As the child stepped into the threshold of life his first 25 years were spent in the observance of *Brahma-*

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charya (ब्रह्मचर्य) which basically meant abstaining from sex-life. The life of sex was confined only to *Grihastha Aashram* (गृहस्थ आश्रम) after which one was expected to give another turn to one's life by renouncing the household life and enter *Vaanprastha Ashram* (वानप्रस्थ आश्रम)) which again meant abstaining from sex-life. The fourth *Aashram* was *Samnyaas* (सन्यास), that is, giving up all possessions of worldly life. This *Aashram* was not for all, it was for the select few who could rise to the height of total non-possessiveness, but *Vaanprastha* was for all. In *Vaanprastha*, besides other things, the main objective was a lifelong abstention from all desires.

As 50 was the age of commencement of *Vaanprastha Aashram* (वानप्रस्थ) so after 50 no one in the country indulged in sex. It was only then that they prayed for a hundred years of age—जीवेम शरद : शतम्—and their prayers were answered. Even today if some one wants to live up to 100 years, he should take to celibacy—particularly after 50. Let the doctors of Europe steeped in Materialism and their followers babble out what they say, the idea of obstension from sex-life and absorption of semen into the system—*Brahmacharya*—is the only secret of prolongation of life. One should remember that *Brahmacharya* is something more than the Western Concept of celebacy.

Whatever exercises one might do, whatever *Aasans* one might perform, whatever medicines one might take, whatever Enzymes, Proteins, Vitamins and Tonics one might eat, all these will be useless in the absence of *Brahmachrya*.

In our terminology celibacy does not mean merely leading an unmarried life. By this we mean not wasting the precious substance—*Semen*—in any manner and absorbing it into the system.

This suggestion is, however, meant not for young men who have to enter *Grihastha Aashram*, but for those who despite being aware of the approaching age are not trying to get rid of their lust.

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HOMOEOPATHIC MEDICINES

(a) **Phosphoric Acid, 18th Potency :** *Dr. Jhar* says that those who suffer from seminal emissions due to the weakness of the genitals or are prone to the habit of masturbation, can benefit by taking a few doses of this medicine in 18th potency.

Dr. Clarke says : In cases where seminal emission is followed by excessive weakness of legs or genitals or burning of the back-bone, taking five drops of *phosphoric acid*, one potency in a glass of water will show benefit and weakness will be removed.

(b) **Digitalis, 1x or 2x :** *Dr. Charlse Hempel* writes that if *Phosphoric acid* is not effective, one dose of this medicine in the morning after breakfast, will remove weakness caused from masturbation. This remedy is also given when seminal emission is accompanied by excessive palpitation.

(c) **Selenium, 6 or 30 :** It is the principal remedy for seminal emissions, 95% of patients respond to this medicine.

It has a special impact on genitals. It is considered one of the most effective medicines to overcome weakness resulting from excessive sexual indulgence and masturbation.

(d) **Staphysagria, 30 :** It is good for weakness resulting from seminal emission at night. The chief characteristics of the medicine are : sunken cheeks, black spots around the eyes and backache.

(e) **Thuja (Mother Tincture) :** A few drops of the mother tincture of *Thuja* given in water help in controlling the night-discharge

(f) **Tatira Gum ततीरे की गोंद—a type of gum :** Those who lose their power due to sexual indulgence, who complain of weakness in legs and hands, find it difficult to support their back or suffer from backache will find Tatira Gum (ततीरे की गोंद) —a type of gum) to be very effective. A part of this gum piece can be put into 70 to 120 grams of water and taken with almonds and sugar in the morning. It will restore energy in the body within a few days.

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CHAPTER 22

Remember Those who Lived Long

Advances in Geriatrics have gone so far that the Biblical expression of three score years and ten has become a myth. Even in Vedic age the expectation of the span of life was not less than 100 years. The *Vedic Rishi* used to recite a Mantra—जीवेम शरद : शतम् पश्येम शरद : शतम् शृणुयाम शरद : शतम् :—*Jeevem shardah shatam, Pasheyam shardah shatam, Shrinuyaam shardah shatam*—'Let us live a hundred years, see with our eyes a hundred years, hear with our ears a hundred years'. This is not only a wishful thinking. It is possible for a living being to live more than a hundred years. If the snake, the tortoise, the whale can live more than a hundred years, why cannot man. It is only our unnatural life—civilization as we call it—which cuts short our span of life. Our worries, tensions, anxieties, diseases, unnatural living are the deadly enemies of a healthy long life. There are instances of people having lived hundred or even more than a hundred years of healthy, active life. Mr. *K.N. Sud*, has cited examples of persons having lived a life of more than a hundred years, published in the Sunday Magazine Edition of **Hindustan Times**, Delhi, dated July 25, 1982. We quote the relevant portions from his above mentioned article entitled **'Age-old Tales'**. He says :

"Ancient Britons, according to *Plutarch*, began to grow old at 125, so that the normal span of life must then have been 150 to 200 years. A Japanese premier, *Take Nouchi*, is stated to have become prime minister at 32 years of age and held office for 276 years".

"*Li Chung Yun*, according to official Chinese records vouched by the Dean of Chang-tu University, was born in 1677 in the province of Szechuen. In 1827 the Chinese Government sent him official felicitations on his 150th birthday and again in 1877 on his reaching the double century mark".

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"There is the case of *Katherine Fitzgerald*, Countess of Desmond, who died at the age of 140 from an accidental fall from a tree she had climbed. Most of her life, it is stated, she regularly walked ten miles a day".

"A nobleman of Europe, *Count St. Germain*, is claimed to have lived 500 years. He appeared at a carnival in Venice in 1710 wearing diamonds as buttons on his coat. He then looked a handsome fifty though well past the age of 250. Several eminent men including *Horace Walpole*, claimed to have met him in the next 110 years but no one knows when he died".

"Some republics in the Soviet Union such as the Ukraine, Azerbaijan and Georgia are well known for the large number of centenarians living there. Azerbaijan boasts of 49 centenarians per 1,000 of its population—the highest ratio on record."

"*Mejid Agayev* is perhaps the oldest man in the USSR today. He is 142 and lives in a mountain village 300 km. from Baku. He is as active as ever and his eyesight and hearing are unimpaired."

"According to a recent report in The Washington Post, more Americans than ever before are reaching the age of 100. There, the life expectancy at birth is 73. In precentage terms, the centenarians are probably the fastest growing segment of the American population. Their number jumped from 8,317 to 11,992 between 1978 and 1974 as per records of the US Census Bureau and Social Security Administration".

"*Charlie Smith* of Florida says that he was born in 1842. That makes him 140. Among other American centenarians is *Larrah Hyde* of Maryland. She says she was 28 when her native territory of Oklahmoa was admitted to the United States as its 46th state in 1907. She enthusiastically recalls the event".

William Pinckney of Washingtion D.C. is 116. He is a walking history book, recalling days of slavery and share-crop-

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ing in Maryland. *Annie Rabb*, 106, vividly remembers the Sunday school her mother ran almost 100 years ago in Columbia, South Carolina, though she says her memory is not all that good".

"Some of the best creative work has been done by persons in their seventies and eighties. *Tennyson* wrote *Crossing the Bar* when he was 83. *Goethe* wrote the second part of *Faust* at 82. *Titian* was 95 when he completed '*Christ Crowned with Thorns*'. *Verdi* wrote four operas after the age of 73. *Shaw* was at 94 as witty and vitriolic as ever and was working on a new play when he died. *Franklin* helped frame the American Constitution after 80. *Justice Holmes* of the U.S. Supreme Court wrote judgments until he was 90".

"In the world of sports too, are innumerable instances of quite old people playing competitive games. *Charlie Hart* at 85 raced a coach and four from Windsor Twickenham for a bet and won. *Sullivan* of Glamorgan was playing cricket at 94. *Christian Almer* 90, and his wife, 92, celebrated their diamond wedding jubilee by climbing Wetterhorn (12, 165 ft.). In 1973 *Toichiro Itch*, a Japanes mountaineer, stunned the world by climbing Fujiyama (12, 395 ft.) to celebrate his 109th birthday. A man in Germany had his driving licence renewed at the age of 103."

Here in India both *C. Rajagopalachari* and *Acharya Kripalani* guided national affairs even after they had entered their 90s. *Moraji Desai* at 87 is as fit as a fiddle. The *Weekend* wrote "about this Octogenarian that he climbs three flights of stairs without stopping for a break and is still not breathless. He also continues worldly-wise and the minutest details like the brand of a pen do not escape his attention. The doyen of Indian cartoonists, *Shankar* (80) still frisks about like children to whose welfare he has dedicated his life. *Nirad Chaudhury* at 85 is as fresh and provocative in his writings as ever." *Archarya Vinoba Bhave* was running his 88th year when after having a mild heart attack he did not take any medicine nor any food and decided to die. He died on 16th of November 1982 of his own

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will, otherwise he could cross 90. The writer of this book, *Dr. Satyavrata Siddhantalankar* is running 86th year of his life and is still busy writing books on various subjects.

Mahrshi Karve of Poona and *Pandit Satvalekar* of Vedic fame crossed the landmark of one hundred years and were active to the very end. *Achray Vinoba Bhave* was very active and alert in his thinking and scholars and politicians used to seek his guidance till his self-sought end.

"All this confirms that old age is a state of mind. The minute you feel old you are old, say the *Yogies*. By allowing the body to work at maximum efficiency the ageing process can definitely be slowed down and life prolonged by perhaps 20 years, says Boston heart specialist, *Dr. Paul Dudley White*".

"However, there is no universal formula or a single reason for walking past the century signpost. Each centenarian attributes his achievement to one particular determinant or a group of determinants. *Dr. Paul Dudley White's* blueprint for a longer life span is to keep fit, eat wisely and make sure one has a purpose in life. He also advises hard work. It has yet to be proved that work, mental or physical, ever hurt a man or woman, he writes".

"A West German Research Team studying the lives of centenarians in that country has found that most of them have been living a life of moderation. They had particularly cut down on over-eating, a curse of the affluent society. Some had led an active sex life at least up to the age of 80".

"While smoking, especially excessive smoking, is disfavoured by almost all centenarians, some of them have been life long teetotallers. Strict vegetarian diet has been advocated by some. *Dr. Robert N. Buler*, Director of the US Institute on Ageing, advises people aspiring to live beyond 100 to develop new interests, avoid tobacco, use alcohol only in moderation and participate in informal social networks that they can turn to in later years."

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Despite the fact that we have quoted from *Mr. K.N. Sud's* article instances of people having lived even upto more than 276 years, we should not ignore the content of the following paragraph culled from *Guinnees's 'Book of World Records'* :

"Many hundreds of claims throughout history have been made for persons living well into their second century, and some, insulting to the intelligence, for people living even into the third. The facts are that centenarians surviving beyond their 110th year are of extreme rarity and present absolute limit, and proven human longevity does not admit of any one having lived to celebrate a 117th birthday".

"It is highly significant that in Sweden, where alone proper and thorough official investigtaions follow the death of allegedly very aged citi zens none has been found to have surpassed 110 year".

"In late life, very old people often tend to advance their ages at the rate of about 17 years per decade".

"England was among the earliest of all countries to introduce local registers (1538) and official birth registration (July 1, 1837), which was made fully compulsory only in 1874. Even in US, 45 percent of births occurring between 1890 and 1920 were unregistered".

However, we should remember and pay homage to people who have enjoyed long and healthy life, and about whom in *Robert Browning's* words we could recite :

Grow old with me, the best is yet to be,
The last of life for which the first was made.

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CHAPTER 23

Miscellaneous Matters

[Ageing, Heart Ailments, Yoga, Diabetes, Cataract]

Since the publication of my book in *Hindi*, on this subject, the readers have taken so much interest in it that besides what has been mentioned in that book, they want something more and more. Keeping this in view, and also with some new material in hand, I am adding in this Chapter of '**Miscellaneous Matters**' new matters which may be of interest to the readers. By ageing we mean the ageing process ; by B. P. we mean Blood Pressure ; by T.M. we mean Transcendental meditation of *Yoga*.

1. TRY TO GROW AS A CHILD—THE AGEING PROCESS

Reader's Digest, March 1982 quotes an Anthropologist *Ashley Montagu*, 74, who was recently faced with the question : "One doesn't think of you as old. How have you avoided the pitfalls of what society calls ageing ? His answer : Simply by remaining young all my life. I got stuck at the age of 18. When I pass myself in the mirror, I'm apt to do a double talk and say : Well, that's surprising—that's me ! That's not the image I have, even physically, of myself".

"I'm writing a book called Growing Young. In it, I say that you develop by stretching out your youthfulness, that the trick in life is to die young—as late as possible. In other words, to remain young in the sense that the child within us is never lost, but developed. You should grow in all the traits of a child : question-asking, open-mindless, playfulness, curiosity, explorativeness, humour. All this should be preserved and developed, rather than suppressed and deformed".

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2. YOUNG AT HUNDRED

Indian Express, dated 11.3.1977 states : "Bombay city has as many as 225 centenarians, all of whom have been invited to have tea with the Mayor, Mr. *Manohar Joshi*, on March 14. Since all the centenarians may not have received invitations, the Mayor has asked the centenarians not to stand on formalities but just come along to the tea-party. Maharashtra is reputed to have the largest number of centenarians in India. It might be interesting to find out what is the secret of their longevity. Two famous past centenarians of Maharashtra—*Sir M. Vishveshvarayya* and *Maharshi D.K. Karve*—attributed their longevity to the fact that they led simple lives and walked for miles. *Vishveshvarayya,* bent with age, could be seen religiously taking his evening walk even in the last years of his life. The great engineer-statesman believed that work and an interest in life did much to keep one young. The truth of this is borne out by two eminent German doctors, *Dr. Oskar* and *Dr. Cecil Vogt,* of the Institute of Brain Research, Neustadt, who wrote : "If we allow our brains to go idle, we are digging our own graves."

"It is remarkable how quite a few aged persons show remarkable energy and are in full possession of their faculties. In the present election campaign a non-agenarian (a person between 89 and 100) has shown that he has a clear and analytical mind that can pinpoint chinks in the armour of the rival party. The late *C. Rajagopalachari* was writing for a weekly journal even at the age of 94."

3. KANUNGO's RESEARCH INTO CAUSES OF AGEING

Prof. M.S. Kanungo, Biochemist deeply interested in understanding the mechanism and cause of ageing and incharge of Biochemistry Laboratory, Department of Zoology, Benaras Hindu University, in a Review of Molecular Manifestations of ageing says :

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"Why all multicellular organisms age is a challenging biological problem. Data accumulated until 1960 have shown that several types of structual and functional changes occur at the organ, cellular and sub-cellular levels as organisms age. They are : decreases in the number of postmitotic cells, levels of enzymes, hormones and antibody and permeability (penetrability) of cell membranes, and increases in the age pigment, and cross-linking and tensile (capable of being stretched) strength of collagen (the substance of which the white fibres of connective tissues are made). These changes, being secondary in nature, do not explain the basic cause of aging."

"Observations such as : (*a*) more or less fixed life-span of all individuals of a species, (*b*) similar pattern of decline of various functions after attainment of reproductive maturity, (*c*) long life-span of progeny of long-lived parents and short life-span of progeny of short-lived parents and (*d*) similar life-span of identical twins indicate that the cause of ageing may have a *genetic basis.* However, factors, like nutrition, heredity and stresses such as temperature, mental, radiation, etc. may account for the variability in the rate of ageing and longevity among the individuals of a species."

"Two possible types of changes are possible at the level of *Genes* during ageing : (1) They may undergo structural changes resulting in the synthesis of wrong or undesirable enzymes (proteins) that may cause deterioration of function of the organism, (2) The degree of expression of *genes* may change with age causing alterations in the levels of enzymes and deterioration of function. Therefore, studies were carried out on various

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aspect of *enzymes* to get some insight into the types of changes that may occur in the *Genes* as an animal ages".

"Extensive studies on the measurements of the activities of various enzymes of the brain, heart, liver, kidney and skeletal muscle showed that the levels of *a large number of enzymes decrease with age*".

"The changes in the levels of several enzymes that occur with age are *reversible*. The levels of certain enzymes which decrease in old age *can be raised and brought back to adult levels by administration of steroid hormones*".

"Since steroid hormones produce their effects by acting at the level of *genes*, the decrease in enzyme levels seen in old age may be due to a decrease in the expression of respective *genes*".

"Study of data shows that alterations that occur in the levels of enzymes may only be due to alterations in the expression of their *genes* and not due to any structural changes in their *genes*". Since the genes (DNA) are complexed with chromosomal proteins, histones and non-histone chromosomal (NHC) proteins, their expression may be modulated by various types of chemical modification that occur in these protinens".

"Findings show that in the post-mitotic cells in which the age-related functional decline is more pronounced than in the dividing or per-mitotic cells like those of the liver and bone-marrow, factors such as steroid and peptide hormones and other effectors that are produced at specific stages of the life-span during growth and reproductive maturation, may bring about a gradual alteration in the chromatin conformation, and thereby change the expression of *genes* leading to alterations in the levels of enzymes and deterioration of functions".

"The regulatory mechanisms necessary for the normal functioning of the array of *genes* required for various functions including reproduction during adulthood gradully get destabilized as the organism is unable to maintain the levels of factors

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that are necessary for induction/repression of these *genes*. As a result of reproduction and other functions associated with growth, certain factors get depleted which the organism is unable to replenish, and certain factors accumulate which it is unable to get rid of. Hence, there is a gradual decline in the homostatic functioning of the *genes* required for the maintenance of adulthood that leads to deterioration of functions and ageing. Also, as a result of accumulation of certain factors and depletion of others, certain undesirable and harmful *genes* get expressed. This may result in the occurrence of cancer and autoimmune diseases whose frequency is known to increase with increasing age".

Times of India, dated 22 March 1976 has the following from *Shri S.C.Kala* from Varanasi : "The ageing of animals has been the main preoccupation of *Dr. Madhu Sudan Kanungo*, head of the department of zoology at Benaras Hindu University, for the past 14 years. His work is directed towards finding what causes ageing and what determines the life-span of different kinds of animals. Why does the rat live for three years and man for 80 years. Once the cause of ageing is known, it may be possible for prolonging the period of youth".

"He has been carrying out his research on white rats which are kept in controlled conditions of temperature, light and food. The population of his rat colony is about 400. He has been assisted by several of his associates—*Dr. S.N. Singh, Dr. S.K. Patnaik, Dr. Behaose Gandhi, Dr. Gyan Kaur, Dr. Sudhe Rao, Dr. V.K Moudgil, Dr. O. Kqul, Dt. V.K. Rath* and *Dr. S.P. Shukla*. The team work, he emphasises, helped him to achieve significant results".

"*Dr. Kanungo* has studied various important *enzymes* of the rat to elucidate the cause of ageing. Enzymes are proteins which are present in all cells. Vital for life they are made up of amino-acids. Their synthesis is controlled by specific *genes* which are made up of **DNA**. Therefore, through the study of enzymes he has been able to throw light on what changes occur at the level of *genes*, the primary site of all functions of living organisms that lead to ageing of the rat".

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Lack of Oxygen

"*Dr.Kunungo* has discovered that one type of enzyme which is essential for the activity of the animal when it cannot get enough *oxygen*, decreases in the heart, the brain and muscles in old age. *Therefore, in the absence of oxygen these organs of old rats cannot function as long as those of young rats.* This, according to him, is one of the causes of the higher rate of heart and brain failure and decrease in muscle-activity in old age".

"He has found that the level of enzyme, AchE, decreases in old rats. The female steroil hormone, esradiol, raises the level of AchE in young and adult rats but not in old. So the ability of the hormone to raise its level in old age is impaired".

"This he has shown to be due to the decrease in a specific protein in the brain. He is now trying to raise the level of this vital enzyme by hormone treatment".

"The level of one enzyme, MDH, of the liver of the rat can be raised by the hormone, cortisone, in young rats but not in old rats. He has been able to repair their damage that occurs in old age by cutting the liver and allowing it to regenerate. The hormone now can raise the level of the enzyme. Thus the liver of an old rat starts functioning as a young liver".

"Another finding of *Dr. Kánungo* is that an enzyme of the liver AAT, undergoes a sequential change in pattern, beginning from the early developmental stage till old age. The pattern seen in the young rat gradually changes as the rat becomes adult, and the pattern of an old rat is totally different from that of a young rat".

Enzyme Levels

"By the use of several bio-chemical procedures he has shown that the nature and function of a particular type of enzyme synthesised in young rats is the same as that of old rats. Since each type of enzyme is synthesised under the direction of one *gene*, it seems that the *genes* also do not undergo any change in

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old age. Therefore, the changes in the enzyme levels seen during different periods of the life-span appear to be due to changes in functional activities of *genes*".

"On the basis of these studies, *Dr. Kanungo* has proposed a theory to explain the ageing process in animals, including man. According to this theory, the ageing of each type of animal occurs due to sequential changes in the activity of *genes* according to a set programme that starts operating from the very early age of development. His studies have revealed that this programme can be changed by experimental methods."

"The cells of the brain, the heart and muscles do not get renewed after they are formed during the early stage of development. Hence, these organs contributed to the ageing process more than the other organs like the liver in which the cells get renewed throughout the life-span. As he has succeded in making the liver of an old rat function as that of a young rat, he is now experimenting to make the muscles, heart and brain of old rats function as those of young rats. This may rejuvenate old rats and prolong their period of youth."

"His research has been financed by Nuffeild Foundation, England, from which funds totalling 16,000 pounds has been received so far."

Kanungo's experiments lay emphasis on absorption of oxygen in the system through the medium of enzymes and genes. In India a great emphasis was laid on *Praanaayaam* (प्राणायाम), which was the method of the *Rishis* of this land for absorption of oxygen into the system and it is a well known fact that those who practice *Praanaayaam* enjoy long and healthy life.

4. DR. DATEY'S RESEARCH ON SHAVAASAN AND ITS EFFECT ON LOWERING BLOOD PRESSURE

Times of India, Dec. 6, 1981 reports : "Playing dead can help you live better, especially if you are hypertense. It has now

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been scientifically established that performing *Shavaasana*, a yogic relaxation technique, lowers not only the blood pressure but also the drug requirements of the patient."

"A study conducted on 86 persons suffering from hypertension at the Yoga Heart Research Centre in Bombay by *Dr. K.K. Datey*, distinguished cardiologist, has clearly demonstrated the positive effects of *Shavaasana*."

"There were 68 men and 18 women from 22 to 64 years of age with an average blood pressure of 186/115 mm Hg. They were divided into three groups. The first group of 15 had not received any of the hypersensitive drugs. The second group of 45 patients had been on drugs for at least two years and their blood pressure was adequately controlled. The third group of 26 were on anti-hypersensitive drugs but their B.P. was not adequately controlled."

Marked Improvement

"*Dr. Datey* told the Commonwealth Scientific Conference that after practising *Shavaasana* for three months, the majority of patients reported a marked improvement in symptoms like headache, insomnia, nervousness, palpitation, breathlessness, angina, irritability and exhaustion."

"In the first group, the blood pressure dropped from 134 to 107 mm. Hg. In group two, the drug requirement was reduced to 32 percent of the original. In group three, the B.P. was reduced from 120 to 110 mm. Hg. and drug requirement to 29 percent."

"*Dr. Datey* who is Director of the Department of Cardiology, Bombay Hospital and Yoga Heart Research Centre, explained that normally sensory perception of outside events led to emotional and mental response. This generated a response in the hypothalmus or the control-station of the autonomic nervous system, and the pituitary glands. Sweating,

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Palpitation and High Blood Pressure were the manifestations of the response."

"With *Yogic* relaxation techniques, these physiological changes ceased directly as they help in modifying the emotional and mental responses. While performing *Shavaasana*, the person relaxes with slow, rhythmic breathing, thereby reducing the frequency and intensity of the impulses. The person remains inwardly alert but is less conscious of the external environment", *Dr. Datey* said.

"He, therefore, postulated that this exercise probably influences the hypothalmus through the continuous feed-back of slow, rhythmic impulses and tends to set in at a lower level, thereby reducing the blood pressure."

Daily Exercises

"All investigations were carried out on these patients before the commencement of the *Yogic* exercise, and at regular intervals thereafter. Patients were instructed to attend the Cardiac Centre every day to learn the exercise. Once they had learned it correctly in about three weeks, they were advised to attend weekly to check their blood pressure and the correct technique of *Shavaasana*."

"The patient was allowed a light breakfast an hour before the exercise. He wore light and loose clothes while performing the exercise. Its duration is half an hour. An experienced supervisor keeps a watchful eye on the patients performing *Shavaasana*."

"Another group of 27 patients was put on the bio-feed-back study. They were in the 39-78 age-group and some had been hyper-tensive for as long as 20 years. The patients under study were connected to a bio-feed-back apparatus depicting galvanic skin resistance (GSR) by means of a continuous sound signal like "beep-beep". Changes in skin resistance provide a fairly reliable measure of the degree of relaxation. As rela-

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xation progresses, the skin resistance increases and a drop occurs in the pitch of the audio-signal. Thus, a correct response is immediately reinformed encouraging the patients to continue efforts in the right direction. Patients were encouraged to practice relaxation twice a day at home."

Subjective Improvement

"*Dr. Datey* said that a subjective improvement was seen in the majority of patients. Their complaints of headache, giddiness and irritability disappeared and there was a sense of well being."

"*Dr. Datey*, therefore, suggested that *Shavaasana* and/or bio-feed-back training are an important addition to the existing anti-hypersensitive armamenteria."

"During the discussion that followed *Dr. Datey's* presentation of *Shavaasana* and bio-feed-back techniques in the management of hypertension, a member of the audience made the observation that if *Shavaasana* was a posture of the dead, then how could it be described as an exercise."

"*Prof. J.F. Goodwin*, noted British cardiologist, who chaired the guest-lecture-session, said that performing *Shavaasana* needed a lot of self-discipline and it was not just lying down as if dead because the person doing it was breathing rhythmically".

"*Prof. Goodwin* good-humouredly wondered whether those extra-busy individuals for whom this relaxation technique was meant would find the time to perform *Shavaasana*. However, the importance of such techniques could not be overemphasised".

"It was stated that there is more stress in certain jobs than others. Executives, professionals and people working on jobs with deadlines are under stress most of the time. Studies have shown that job stresses accounted for greater differences

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between the groups than other risk factors like diet, heredity, obesity, smoking or lack of exercise."

INCREASE IN HYPERTENSION

"In recent years, the incidence of coronary heart disease and hypertension had increased. Though high blood pressure is prevalent throughout the world, very little is known about its cause. About 10 per cent of cases of H.B.P. are secondary to diseases of the kidney, aorta and the endocrine glands etc. These are cases of secondary hypertension. In the other 90 per cent, no cause of high blood pressure can be detected, and are, therefore, labelled as essential hypertension."

"Most patients of hypertension are treated by drugs which have to be continued for life. Some of the drawbacks of the drug therapy are the cost of the drugs and their side effects. In this context, other measures which help lower blood pressure are welcome."

5. DR. M.L. BHATIA ON YOGA AND TRANSCENDENTAL MEDITATION FOR LOWERING BLOOD PRESSURE

Hindustan Times, April 23, 1978 ; "*Maharshi Mahesh Yogi* has been doing research work in T.M. and he has attracted attention of prominent Indian and Western doctors as regards the utility of meditation in reducing blood pressure. Transcendental Meditation is nothing but meditation on certain symbolic formulas, such as, *Soham*, सोहम् *Aum* ओ३म् etc. with their repetition and concentration on them by excluding all worldly thoughts which cause anxiety, worry, tension, fear etc. It is relaxation and a state of restful alertness with total abandon to the Will of God".

Dr. M.L. Bhatia, Head of the Department of Cardiology, All India Institute of Medical Sciences, New Delhi, has contributed a brilliant article in **Hindustan Times**, dated April 12, 1978 in which he states :

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"INDIA has its share of persons with high blood pressure. Available statistics indicate that ten to fifteen percent of a randomly selected adult population is likely to have blood pressure, levels higher than the accepted normal".

"Persistent high blood pressure may produce deleterious effects on body-functions by producing changes in the blood vessels supplying blood to various organ systems of the body, especially the brain, the heart and the kidney. It is these complications which cause high morbidity and mortality in hypertension thus making it a menace of alarming proportions".

"The early symptoms of high blood pressure are vague and non-specific. It is not surprising, therefore, that most individuals with high blood pressure are unaware of their problem and may come to know about it only by chance if the blood pressure is recorded during the course of a medical examination or when a complication sets in. Hypertension has been appropriately called *a silent killer*".

"What causes the rise in blood pressure ? In a small percentage (10 to 15 percent) a known cause for high blood pressure can be discovered. This includes various diseases of the kidney, some diseases of the blood vessels, tumors and hyperplasta of the adrenal glands and so on. Such patients are said to have secondary hypertension. In a majority of individuals, however, even detailed time-consuming and expensive investigations may reveal no specific cause for the disease. These are the patients with essential hypertension. The current medical opinion is that an interplay of a host of factors in such patients is responsible for the abnormal rise in their blood pressure. Several such host of enviromental

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factors have been suggested as being casually related to essential hypertension. These include, among others, an inability to cope with psychic-stimuli, imbalance of the autonomic nervous system, increased salt intake starting early in life in susceptible individuals, and hereditary and racial influence. It appears unlikely that a single major cause will be accounting for the bulk of patients with hypertension".

"Elevated blood pressure has been found to be related to environmental conditions requiring continuous behavioural and physiological adjustments. Many of them involve the autonomic nervous system of the body, and have evolved and stablised some responses a long time ago during human evolution. An example is the *fight, fright, flight* reaction which is associated among other things with increased blood pressure and heart-rate response. Such responses occurring in relation to our complex changed environment, hectic pace of life and altered expected social behavioural patterns when inappropriate and recurrent, could lead to a permanent rise in blood pressure. Since the environment is not easily altered, prevention and treatment of stress-related diseases like hypertension might be possible by altering the abnormal autonomic responses of the individual to his environment."

"*Yoga* and *Transcendental Meditation* (TM), long practised in India, are two promising modes of treatment which could be applied for such a purpose. These have inherent advantages in being physiological, inexpensive, and devoid of any side-effects in contrast to drug therapy. Additional benefits may accrue in reduction of mental tension, and anxiety with development of internal peace and harmony".

"*Yoga* is a system of self-culture aimed at harmonious development of the body, mind, intellect and soul. *Yogic* physical exercises have been considered useful in treatment of many diseases including hypertension. Their scientific evaluation is, however, only of recent origin. In our country, investigators at *Bombay* and *Varanasi* have published data on the treatment of patients with high blood pressure through these practices".

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"*Shavaasana*, used in the Bombay studies, resulted in reduction of average blood pressure in a majority of patients. Many of them required lesser amounts of drugs for treatment of high blood pressure while in others no drugs were required at all. The long-term results of this study are, however, not available. The *Varanasi* group has used several *Yogic* exercises (*Shavaasana*, *Praanayaama*, *Bhujangaasana* and*Shalabhaasana*) in a group of patients with essential hypertension. At the end of six months, symotomatic relief was described with a *progressive feeling of well-being*. A fall in blood pressure was maintained till the end of the study".

"Short-term beneficial results are thus evident. However, the long-term effects of these practices have not been sufficiently studied or critically appraised. In addition, the exact mechanisms resulting in these beneficial changes require to be studied. Since essential hypertension results from a psycho-neuro-endocrinal maladjustment, *Yogic* practices apparently have a potential of influencing some of these underlying mechanisms".

"*Transcendental Meditation* (TM) has been the subject of intensive medical research in many countries, especially in the United States. The technique has been practised for long in India. Besides, it has at present thousands of votaries in the US as well as in other Western countries. It is estimated that more than 600,000 people practise 'TM' in the US for various disorders including hypertension. Physiological studies show that in this state of *restful alertness* and '*relaxtion but not sleep*' bodily requirements of oxygen are decreased, heart rate and blood pressure are reduced, lactate levels (a measure of tissue metabolic activity) are lowered and significant changes in electro-encepholographic rhythm (electrical activity of the brain), distinct from that of sleep, take place".

"*Benson*, a well-known investigator of T.M. phenomena, believes that the stress of living in a complicated society with a multitude of anxieties and pressures in the frequent situation of the '*fight-flight-reponse*', leads to a chronic rise of blood

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pressure since discharge of this arousal state may not always be possible. Regular practice of T. M. has been shown to reduce blood pressure after four to forty weeks of its practice. Long-term results in a large enough group of high blood pressure patients are yet to be made available. The theoretical basis of its usefulness in treatment of hypertension, however, appears sound and needs to be further appraised critically. Available preliminary studies provide an existing new direction for scientific research."

"Both the techniques, *Yogic Aasana* practice as well as *Transcendental Meditation* or its equivalents, are of great current interest since these are not drug-dependent and hence free from the drawbacks of their usage. They are likewise free of cost except in terms of time and self-discipline and are hence available to everyone. There is need for further studies of their clinical utility on a larger scale and over a longer period of time to determine the type of patients who are likely to benefit, the permanence or otherwise of the beneficial results and an indepth study of the basic mechanisms which results in such effects. It is likely that beneficial results would be more evident in those with early, mild hypertension, where permanent changes in the blood vessels of the various organs of the body are not yet present and where abnormal autonomic responses rather than other factors are operative in producing and maintaining high blood pressure".

"It is, however, necessary to caution against the uncritical acceptance of these techniques. They should not be used except under the physician's guidance and even then, at least for the time being, only for uncomplicated hypertension. Their use as self-therapy for chronically raised blood pressure is to be deprecated. But they do require consideration as alternative modes of management of patients with high blood pressure perhaps even as a preventive method in populations exposed to the risk of development of this disorder."

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"Just as uncritical acceptance of these practices is to be rejected, likewise, an unequivocal rejection will also be misguided. India may well be in a position to offer a unique mode of therapy for the patient with the blood pressure."

Though we do not recommend drugs for lowering blood pressure, yet there may be some who find it difficult to take to *Shavaasana* or *Transcendental Meditation* (T. M.). Yet there is a herbiferal remedy known as *Sapera* manufactured by Charak Pharmacy, one pill of which can be taken morning and evening. It is an Ayurvedic medicine. Allopaths prescribe *Adelphane*, one pill morning and evening, but it should be taken under medical supervision.

Dr. William Boericke, in his Homoeopathic Materia Medica recommends *Aurum Metallicum* 30 for High Blood Pressure—Valvular lesions of arterio-sclerotic nature. For High Blood Pressure due to disturbed function of nervous mechanism he recommends *Aurum Muriatium Natronatum* second or third trituration.

6. DR. R.H. DASTUR ON HEART ATTACK

Structure of the Heart

Dr. R. H. Dastur (*Address* : *Shanti Kutir, Nariman Point, N. Subhash Road, Marine Drive, Bombay 400001*,) writes in the **Times of India**, Sunday Edition, dated August 9, 1981, as follow : We quote :

"The heart beats, on an average, 70 times a minute or about 100,000 times a day and in so doing pumps about 4,500 to 9,000 Kilogrammes of blood (depending upon your size) through more than 130,000 Kilometers of blood vessels. So, if a person lives for, say 50 years, the heart beat will repeat 240 million times ! This rate is stepped up during periods of excitement or

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exertion. For instance, the heart beates faster during running to provide more blood to the muscles, and during digestion, to the stomach and intestines."

"The autonomic nervous system (ANS) governs the heart's action, which is automatic and beyond your control. This nature's marvel ticktocks rhythmically like a well-oiled clock from birth till death, needing neither readjustments nor overhauling. *William Harvey* (Chapter I, De motu cordis) says :

'I am always tempted to think with Francastorius that the motion of the heart was only to be comprehended by God'

"In order to know what a heart-attack is, let me first explain to you the functions and working of one of nature's greatest marvels."

"The heart commands respect and reverence from prince and pauper, poet and peasant. Long before biologists discovered its actual functions, it was believed to be the seat of all emotions, probably because it was noticed that the heart beats faster in moments of excitement, anger or fear. Some of the finest metaphors in the language are inspired by the heart. 'Heart-break' was the height of tragedy in high drama, although a normal heart is far too sturdy to break. Parted lovers, sorrowing parents, disappointed artists, exiled patriots were often believed to have died of heart-break. We call a cruel person hard-hearted, a kind person soft-hearted, a courageous person stout-hearted and a coward chicken-hearted."

"Quite simply, the heart is a pump of special, sturdy muscle embedded with blood vessels, about the size of your fist and weighing less than a pound. It is like a four-room house. The two upper chambers are the left and right auricles and the two lower chambers, the left and right ventricles. The left and right auricles are the receiving chambers—the former receives fresh blood from the lungs, while the latter receives impure blood from the veins."

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"Each of the auricles and ventricles is divided by a tissue with valves which open every time the heart contracts to push blood from the auricles into the ventricles. The right ventricle sends the impure blood through the pulmonary arteries to the lungs for purification. The thick, muscular left ventricle ejects oxygenated blood into the aorta—the trunk artery in the human body—which springs from the top of the left ventricle, curves into an arc and divides and sub-divides into smaller arteries to distribute oxygenated blood to all parts of the body."

"The first branches sprouting from the aorta are the coronary arteries. They are called the coronaries because they form a corona or crown over the heart."

"The heart is an extremely hard-working organ with a voracious appetite. But it takes no nourishment for itself from the blood which it pumps to the rest of the body. The heart is fed and nourished by the two coronary arteries—two troublemarkes about pencil thick in diameter."

The left coronary artery divides very near its origin into two main branches—the anterior descending and the circumflex. The anterior descending is nicknamed the 'widow-maker', as a clot in it can extinguish life. It feeds the front and the partition between the two ventricles, the septum. The circumflex supplies blood to the side and back of the heart, while the right coronary artery feeds the lower part of the left ventricle and the entire right ventricle."

"The modus operandi of the killer differs in different individuals but its ultimate aim is the same—to attack the victim's heart and blood vessels causing disability and death. The stea thy killer masquerades as high blood pressure (hypertension), ischaemic heart disease causing angina, heart attack, abnormal heart beats, and strokes."

"How to tell angina pectoris spasms from coronary thrombosis ? A recurring pain in the chest accompanied by a feeling

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of suffocation and impending death due to anoxia (lack of oxygen) in the myocardium or heart muscle, and precipitated by exertion or excitment is called Angina pectoris. On stopping the exertion, the pain vanishes. If the spasm persists for some time, the result is coronary spasm. However, if a clot of fatty deposits forms inside the artery, the unfortunate victim is in for coronary thrombosis."

Angina Pectoris

"Angina pectoris literally means 'pain in the chest'. *William Heberden*, an English physician, coined it in 1772 to describe this special type of chest-pain. His description is looked upon as a medical classic. I shall reproduce relevant part of it :

'There is a disorder of the breast marked with strong and peculiar symptoms, considerable for the kind of danger belonging to it and not extremely rare which deserves to be mentioned more at length, The seat of it and sense of strangling and anxiety with which it is attended may make it not improperly be called angina pectoris.'

'They who are afflicted with it are seized while they are walking (more especially if it be uphill and soon after eating) with a painful and most disagreeable sensation in the breast which seems as if it would extinguish life if it were to increase or to continue ; but the moment they stand still all this uneasiness vanishes.'

"Unfortunately, *Heberden* was not aware that the chest-pain which he described, originated from the heart. Nearly a century later, *Sir Lauder Brunton*, a Scottish physician discovered that a tablet of *nitroglycerine*—the principal component of dynamite—kept under the tongue relieved the pain. However, it was *Sir William Osler*, who in 1910 speculated that the pain of angina was related to the heart. Finally, with the invention of the electrocardiograph by *Einthoven*, which came into popular use in the 1920s and 1930s, the cardiac origin of angina pectoris was demonstrated."

"Briefly, angina pectoris is the cry of the heart-muscle for blood, and is the precursor to coronary thrombosis. It is the

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amber light, warning us to slow down. Prompt preventive measures at this stage (described later) can avert a coronary catastrophe."

"Coronary spasm or variant angina develops when the patient is at rest and is usually due to spasm of the coronary arteries. It is characterised by severe pain in the chest and ECG changes which persist for a few hours or even for a few days. The pain stops when the ECG returns to normal. Often the spasm is so transient that an ECG taken just a few minutes after the attack is normal".

Coronary Thrombosis

"In coronary thrombosis, a clot or thrombus clogs one of the coronary arteries or its branches. Blood platelets (a constituent of the blood concerned with clotting) are mainly responsible for clots in athero-sclerotic arteries. The inner lining of the aorta and the coronary arteries is a hot spot for these clots to form. A clot of these platelets may block the blood supply to a vital part of the heart-muscle, which starts aching. *This is called a heart attack.* If the blood supply is choked off completely, the victim dies.."

"*Herrick's* classic description of coronary thrombosis is still unsurpassed. He diagnosed it by a pains-taking history and clinical examination with a stethoscope, as blood tests and electrocardiograms were then unknown. I shall quote from his original essay titled, *Clinical Features of Sudden Obstruction of the Coronary Arteries.*"

'A man, aged 55, supposedly in good health, was seized an hour after a moderately full meal with severe pain in the lower precordical (heart) region. He was nauseated and believing that something he had just eaten had disagreed with him, he induced vomiting by tickling his throat. The pain continued, however, and his physician was called, who found him cold, nauseated, with small rapid pulse and suffering extreme pain. The stomach was washed out and morphine given

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hypodermically. The pain did not cease unti lthree hours had passed. From this time the patient remained in bed, free from pain but the pulse continued rapid and numerous rales—crackling sounds heard with a stethoscope—appeared in the chest. When I saw him twelve hours from the painful attack his mind was clear and calm ; a moderate cyanosis (a bluish discolouration of skin and mucous membranes) and a mild dyspnea (breathlessness) were present. The chest was full of fine and coarse moist rales ; there was a running, feeble pulse of 140. The heart tones were very faint and the abdomen was tympanitic (distended). The urine was scanty, of high specific gravity, and contained a small amount of albumin. The temprature was subnormal, later going to 99°F. Occasionally, there was nausea and twice a sudden projectile vomiting of considerable fluid material. This condition remained with slight variations up to the time of death, fifty-two hours after the onset of the pain. A few hours before death, the patient described a slight pain in the heart region, but said it did not amount too much.'

"*Aspirin* is believed to inhibit platelet aggregation and prevent clotting, and is the basis of modern treatment for preventing heart attacks in susceptible individuals. To potentiate its action, it is combined with *Persantin*, whose action is similar to *aspirin*."

"The stomach and the heart simulate each other closely—so closely in fact, that a heart attack is often mistaken for 'gas' in the stomach."

"Is it any wonder that until *Herrick* described it, the diagnosis of such deaths was '*acute indigestion*'. The irony of it is that even today, a patient with a real heart attack often shrugs it off as indigestion, while members of the 'symptom-a-day club' imagine their indigestion to be the begining of the end—a fatal heart attack. The latter diagnosis is always safer ; the former could be a fatal error."

"Stomach pain due to gas occurs on the left side of the chest, near the left nipple. If it comes on after meals and is unaffected by exertion but relieved by belching, it is usually due to wind in the stomach from air swallowing. Burning behind the

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breast-bone or upper-abdomen from hyper-acidity in the stomach is sometimes mistaken as originating from the heart. But the indigestion which *Col. Sachdev* believed he was suffering from was in reality a heart attack".

"Pain in the chest always rings an alarm-bell. The patient rushes to his doctor, as he considers the heart the mainspring of his body. The stomach on the other hand is treated with scant respect. For abdominal pain, he self-medicates, experimenting with his diet, taking sodamints, antacids, laxatives, *Churans* and purgatives—a wrong thing to do."

"Any part in the chest can develop pain. A heart attack, however, is the most sinister and excruciatingly painful ; the others are innocuous. I will briefly review them and tell you about the different chest-disorders which can arise from them."

"The outer chest wall comprises muscles, nerves, ribs, cartilages and blood vessels. It encloses the two lungs and the heart with its tough coverings—the pleura and the pericardium—and the blood."

"The commonest cause of pain in the chest is costo-chondritis—a rheumatic pain occuring anywhere in the chest at the junction of the costal cartilage and the ribs. Pressing the costo-chondral junction elicits pain and confirms the diagnosis, even if the other tests (history, blood, electrocardiogram) are negative. As this pain is persistent, it causes the patient great anxiety and often sets in cardiac neurosis."

"Tense executives who hyperventilate also cause confusion by complaining of breathlessness, pain in the chest and numbness in the fingers—the classic symptoms of a heart attack. A thorough physical check-up, blood tests, electrocardiogram, and most essential, '*tons of reasurance round the clock*' gradually convince these patients that they have not suffered a heart-attack."

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"Different patients describe a heart-pain differently. Some say it is a burning sensation, others describe it as a heaviness in the chest, while a vast majority term it as pressure or tightness over the chest. The victim holds a clenched fist over his breast-bone, which the observant cardiologist *Sam Levine* described as typical of a heart pain".

"Pain due to angina occurs in typical locations like the jaw, the shoulder, the tip of the little finger or more commonly, the front of the chest. It is brought on by exertion and is relieved by rest. An emotional upset, any exertion after meals or exposure to extreme cold can also precipitate angina."

'It is funny that as soon as I start walking I get a pain in the chest,' *Shantilal* told me. 'Formerly, I used to stand, but I have now found a new technique. I continue walking and the pain disappears.'

"*Shantilal's* 'new technique' would have precipitated a heart attack. In such cases the collateral channels (small side branches of arteries) open up on exercise, permitting more blood flow to the heart. But it is safer to put a tablet of *nitroglycerine* under the tongue before walking or other exertion, as it helps to dilate and widen the arteries so that the pain soon disappears and the patient can resume his normal activities. After collateral circulation has developed, the patient can stop taking *nitroglycerine*."

Risk Factors of Heart Attack

"The factors which make a person prone to heart attack are called 'risk factors.' They are : (1) heredity : (2) sex ; (3) diet rich in saturated fats and cholesterol ; (4) high blood pressure ; (5) stress ; (6) cigarette smoking ; (7) sedentary occupation and lack of exercise ; (8) organic diseases like diabetes, gout ; and overweight."

"All Cardiologists are agreed that saturated fats and cholesterol are the villians, but there are wide differences of views

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about stress being a risk factor. *Dr. Donald Ross,* an eminent surgeon at National Heart Hospital, London, shrugs it off as a lot of rubbish. People who work hard live longer, he asserts. It is not hard work but no work that kills people "

"On the other hand, psychologist *John French* of the University of Michigan, says : If you could perfectly control cholesterol, blood pressure, smoking, glucose level and so on, you would have controlled only about one-quarter of the coronary heart disease. *Dr. Friedman* and *Dr. Roseman* of California describe the coronary 'Type A' personality. Over ambitious, hard driving, aggressive executives are typical examples of self-imposed stress, pointing the gun at themselves and following a headlong course of health destruction. "There are only two causes of ischaemic heart diseases—*mental tension and diet.* Everything else arises from them, succintly summed up the leading cardiologist, Datey."

Fatty Foods and Cholesterol

"Besides tension, the other factor is diet which contains *cholesterol* and causes arteriosclerosis. In civilized societies arteriosclerosis is one of the commonest ills that the human flesh is heir to. Arteriosclerosis is a group of diseases characterised by thickening and loss of elasticity of the arterial wall. This change is due to irregular deposition of fatty acids within and under the inner coats of the artery."

"Let me explain an example. Visualise Bombay's silted water flowing through a plumbing system. Over a period of time, the pipe-line corrodes and silt-deposits narrow its lumen. Exactly the same thing happens in our *arterial-pipes,* except that the narrowing is not unifosm but in patches. The culprit is not rust or silt but atherosclerosis : (atheroma=fatty degeneration of the arterial walls ; schlerosis=induration and overgrowth of the connective tissue of an organ)."

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"In 1913, *Anitsckoff* carried out an interesting experiment whose findings struck terror in households. He fed rabbits artificially on a high-cholesterol-diet and later discovered when those rabbits were killed that their arteries were full of atheroma. Overnight the world was agog with news that the new great killer of all times causing atherosclerosis, heart disease and death was cholesterol-containing foods. The very mention of the word '*high cholesterol in the blood*' sent shock waves down the spine of the victim. A murderer sentenced to death knows when he will be hanged ; but until a few years ago, the victim of raised cholesterol who was medically sentenced to death from a heart attack lived in suspense and fear, not knowing when the sword of Democles would descend and annihilate him."

"An extensive study of cholesterol levels in different populations done by epidemiologist *Ancel-Keys* revealed that American and European populations who took a high saturated fat diet had a higher level of serum cholesterol than certain African tribes whose fat consumption was low. His findings also revealed that consuming unsaturated fats like ground-nut oil reduce cholesterol levels."

"In our country *Dr. S.L. Malhotra* who studied the geographical pattern of heart attacks in 1969, found that the diet of the *Panjabis* with plenty of *wheat chapattis* and legumen (a nitrogenous protein from the Legumes, *i.e.* beans, peas etc.) is healthier than that of the *Tamilians* whose staple diet is polished rice".

"Cholesterol is a fat found in animals and man. It is really a useful citizen of the body, being the raw product from which all our hormones are manufactured. The hormones of the pituitary gland which governs and regulates body functions, the thyroid which stokes the fires of our metabolism, the adrenaline which makes us 'fight or flee' in crisis, the ovarian hormone responsible for feminity and loveliness, and the male hormones, testosterone, responsible for manliness in

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the male are all manufactured from this raw product. In short, without the cholesterol life cannot exist."

"How does the giver of life become a killer ? If the supply of cholesterol in the blood exceeds our bodily needs, the surplus is deposited on the artery's inner lining. The result ? They get thickened and narrowed, then a clot forms which can abruptly cut off or choke the heart's blood-supply and threaten life."

"The cholesterol in our body is derived from two sources. A certain amount is manufactured in the body, while the rest is derived from the food we eat. Cholesterol-rich foods are basically saturated with animal fats like butter, ghee, cheese, whole milk, egg yolk, ham, bacon, shell fish and coconut and palm oil. Foods low in Cholesterol are fruits, vegetables, cereals, vegetable oils like groundnut oil, *till* (तिल) oil, sunflower (सूर्य मुखी) oil, lean meat and fish."

"But diet is not the sole cause of raising cholesterol. Recent studies show that emotional stress also affects cholesterol levels ...In a study of 27 Company chairmen at our clinic, we found a significant increase in serum-cholesterol levels, prior to an annual general meeting, if the company had fared badly and coping with irate shareholders was an anxiety-provoking situation. There was also a consistent rise in serum-cholesterol amongst executives involved in long drawn-out and rather futile negotiations with Government or labour. What is the *modus operendi* of the killer ?"

"Formerly cholesterol was rated the sole villain for causing heart diseases and death, but recent research shows that there is a gang of dacoits operating in our plasma, like the ones we have in Chambal valley. The ring leader, of this gang is, of course, Cholesterol, aided and abetted by his deputies. All dacoits are not killers. Some like *Mansingh* and *Robin Hood* have a streak of goodness in them. They rob Peter to pay Paul. HDL has been given a pat on the back by researchers as recent

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findings show that it acts as a scavenger of its accomplices, and so actually protects us against coronary heart disease. *Clomset* has hypothesized that HDL helps to remove the cholesterol, clogging the peripheral arteries to the liver."

"Another interesting finding is that persons who do not drink have lower mean HDL cholesterol level as compared to those who take a peg or two of alcohol. Investigators are now busy trying to find out the foods and drugs which would increase HDL levels of cholesterol in the blood."

"Exercise is said to increase HDL levels. Individuals who exercise regularly like taking a brisk walk for an hour three to four times a week, are found to have higher levels of protective cholesterol (HDL). Regular and vigorous physical exercise reduces cholesterol. Recently people have started jogging and even trying to run at home. It is very good in reducing cholesterol level. However, sudden and sporadic outbursts of energy during weekends and holidays do more harm than good."

"Heart attack is a man-made disorder of modern civilization. Of the wide spectrum of risk factors which make a man coronary prone, only two—Heredity and Sex—are beyond your control."

"Heredity plays an important part in causing coronary artery disease. It has long been known that certain families are susceptible at a young age, before 45. If a mother or a father died suddenly of a heart attack in middle age, the chances of their children getting an attack are double compared to persons with a negative family history. The risk is five times greater, if both parents have died prematurely from coronary artery disease."

"The weaker sex is physically a tougher species right from birth and has higher powers of resistance to cardiovascular

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diseases than men. This is more apparent up to menopause and many doctors believe that the ovarian hormones confer a natural protection. In 1954 a group of American physicians found on observing a large number of adults under 40 suffering from coronary disease. The result showed that for every 24 men who had a heart attack only one woman had it. However, the ratio narrows down after menopause and levels off with age."

"The other risk factors—raised cholesterol and blood pressure, emotional stress and smoking—are a consequence of your life style of living and can be changed. Says cardiologist *Jai Shekher Jhaveri* : The best way to prevent a heart attack which may prove fatal is to change your life style. This is possible by appreciating that an ounce of prevention is worth a ton of cure and by looking on it as a challenge to you with power and self-control, you will add not only years to your life but life to your years."

"We are blessed with only one heart because Nature has designed it to give a life-time of trouble-free service. Look after this most precious possession. The sum total of all the care you can lavish on it, adds to two simple words : Sensible living".

Dr. Zal Kutar on Cholesterol

Dr. Zal Kutar writes in his article titled '*Cholesterol : Slow and Deadly*' published in **Hindustan Times** (Sunday edition, dated August 9, 1981) : "Unfortunately for us, animals also produce cholesterol, and it is present in all fatty foods derived from animal sources, such as, animal fat, egg yolk, milk, cream, butter, *Ghee* and cream or cheese. On the other hand, vegetable oils contain no cholesterol. What is more, oils obtained from sun-flower, Soya, corn and cotton seeds contain large quantities of linoleic acid, and other acids which actively reduce blood cholesterol levels when eaten. Heavy manual, work or vigorous exercise also reduces the cholesterol."

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7. DR. SHANTI LAL SHAH ON HEART ATTACK

Dr. Shantilal J. Shah, a well-know Cardiologist, addressing a joint meeting of Giants-Group of Juhu and Malad at Sun-N-Sand Hotel, is reported to have said as published in the **Indian Express** that the newly married men should check expansion of their waist in the first five years of their marriage as during this period the seeds of coronary disease are sown. During this phase the wife feeds her husband very well and the husband accepts it as an expression of love with the result that the man turns sluggish and does not take any exercise, thus he becomes overweight which is the root cause of coronary disease.

Answering questions, *Dr. Shah* said that alcohol was certainly not good for the heart. Sometime it has a direct effect on the heart muscle. He further said that it was a misguided belief that indulgence in sexual intercourse avoided heart disease.

He observed : 'It has no relation to coronary disease.' He suggested that '*Yoga*' if scientifically practised could help a man reduce stress and strain on his nerves.

He said. "Let us not be afraid of coronary diseases. Fight it and you can certainly prolong your life-span. Heart was the greatest gift God had given human beings, heart-attack was also the greatest gift given by him. All my patients prefer dying of heart attack. Some want to die sitting in their chairs, some want to go to bed and never wake up, and some others want to die at their religious places. But none wants to die of any other disease."

8. DR. K.K. DATEY ON HEART AND YOGA

Dr. K.K. Datey (Address : Windson, Opp. Oval Bombay, 400001), the world renowned heart specialist who was honoured with *Dhanwantary Award*, about whom we have mentioned earlier in this chapter practises *Shvaasan* every day for 15

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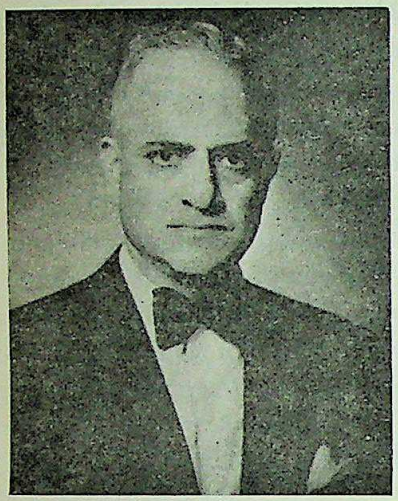
minutes giving it a top priority in combating heart diseases. Asked as to why he thought so highly of *Yoga* he answered, as reported by *A.S. Raman*, in the magzine section of **Sunday Standard,** October 9, 1977 as under :



"*Yoga* is a way of life. It consists not only of *Hatha Yoga* (हठ योग) but *Yama*, (यम) *Niyam* (नियम) and *Partyaahaara* (प्रत्याहार) which emphasise the basic truth, if you don't do anything wrong, you have nothing to fear—and the question of tension does not arise at all. Don't do wrong to others and they leave you in peace. *Yoga* not only tones up the whole system physically, but it uplifts you spiritually."

In this connection, we may add, that as enumerated by *Patanjali*, there are 8 pillars of *Yoga*, the first 4 relating to the body and the next 4 relating to the mind—as under :

1. **Yama** (यम)—(Eternal Spiritual Restraints),
2. **Niyamas** (नियम)—(Social or Behavioral Restraint),
3. **Aasanas** (आसन)—(Different postures of the body),
4. **Praanaayaam** (प्राणायाम)—(Control of life-breath)
5. **Pratyaahaar** (प्रत्याहार)—(Withdrawal of senses from objects of indulgences),
6. **Dhaarnaa** (धारणा)—(Selection of a Spiritual Object for Dwelling in Within).
7. **Dhyaan** (ध्यान)—(Concentration on that Spiritual Object),
8. **Samaadhi** (समाधि)—(At-one-ment with that Spiritual Entity).

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As regards the 8 Eternal Spiritual Restraints **(Yamas)** *Patanjali* says in *Yog Darshan* that there are 5 Eternal Spiritual Truths **(Mahaavrataas)** which should guide us as they are the basic principles of our life eternally true in all climes, times and places (देशकालानवच्छिन्ना: सार्वभौमा: महाव्रतम्). They are :

1. **Ahimsaa** (अहिंसा—Non-violence)
2. **Satya** (सत्य—Truth)
3. **Asteya** (अस्तेय—Non-acquisition or Non-possession)
4. **Brahmacharya** (ब्रह्मचर्य—self-control)
5. **Aparigraha** (अपरिग्रह—Dispossession, self-abnegation or surrender of material possessions)

When asked as to how *Yoga* helped in preventing heart diseases, *Dr. Datey* said :

"You see, life as you know, is full of tensions. Not a moment passes without anxiety of some kind or other ... Whatever decision we take or don't take is fraught with tension. Every moment, believe me, we are under stress. Every decision taken or postponed has its impact on your blood-pressure. Thus, if you marry you are under stress ; if you don't marry, you are under another stress. Stress, stress, stress. Life is nothing but stress, but this does not mean that you should run away from it, nor can you, if you wish to."

"*Yoga* tells you how to live without hurting yourself or others. How does *Yoga* help ? What *Yoga* does is this : it cushions you against the effect of stress on your metabolism, so that you are in the exalted position of remaining unaffected by what goes on around you. *Yoga* keeps you, not away from but above stress by refining and regulating your reactions to it."

If your life is based on the principles of *Yoga*—non-violence, truth, non-acquisitiveness, self-control, dispossession—you will be free from tension and stress.

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When a person hurts anybody he expects a retaliation which creates tension ; when a person has stolen somebody's property he is afraid of being caught which creates tension ; when a person has lost self-control he is met with dire consequences—physical, social or psychological—which create tension ; when a person has accumulated too much wealth he is always under the fear of his possession being lost which creates tension. Tension is the cause of bloodpressure and diseases of the heart. A life of *Yoga* means a life of love, not hatred and violence ; of truth, not falsehood ; of satisfaction, not covetedness ; of self-control, not indulgence ; of minimum wants, not accumlattion. This leads to relaxation and peace of mind which is the only permanent cure of blood pressure and heart diseases.

Asked by Shri *A.S. Raman* as to how does *Yoga* act on the heart, Dr. Datey replied : " It acts in two ways : (1) By increasing the efficiency of the heart and (2) by altering the body's reaction to stress. When we change our reaction to stress, we are not affected by stress to the same extent as we would otherwise have been. No perspiration ; no shooting up of blood pressure ; no headaches. It all boils down to one thing : to the body's reaction to stress."

Generally people think that *Yoga* means *Aasans*—आसन. It is wrong. *Yoga* is a very wide term as we have deliniated above. Principally, *Yoga* is a psychological and spiritual way of life, *Aasans* are only one-eighth part of *Yoga*, but are very important for maintaining health.

"There are *Aasans* for different parts of the body for different purposes. Each system is best served by a particular *Aasan*." *Padmaasan* is preventive of Arthritis, *Siddhaasan* is preventive of prostatitis, *Shavaasan* is preventive as well as curative of high Blood Pressure. *Sheershaasan* is for increasing blood supply to the brain though not recommended for older people, *Sarvangaasan* and *Vipareetaasan*

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also produce the same result and the middle-aged and elderly can do these with profit".

Dr. Datey says : "If one does these *Aasans*, one can dispense with such drugs as *Vaso dialators* (producing dilataion of vessels). Morbidity goes down. One never falls ill if one does *Yoga* regularly and systematically ; the general toning up of the whole system is guaranteed..... *Yoga* done in one minute uses up only 5 to 6 calories, while any other exercise, including running, jumping etc. uses up 10 to 12 calories. Walking uses up 3 to 4 calories per minute, but it does provide exercise for the enitre system".

Tension Leads to Heart Disease

Asked by Shri *A.S. Raman* as to what is tension, *Dr. Datey* replied : "The moment you start doing something apart from your routine, that is tension. No job satisfaction, absence of congenial atmosphere in home or office, the death of a spouse or someone dear to you, situations in novels or films, television and play—all these are sources of tension. It is a scientifically established fact that if there is a death in the family, the survivors are never the same again atleast for one year..... Death causes such severe emotional disturbance in the survivors. Tension should be avoided, because, if neglected, it leads to hypertension. So emotional factors play a very important role in one's life. They often lead to heart disease".

Other Factors of Heart Disease

Asked by Shri *A.S. Raman* to describe other factors of heart disease, *Dr. Datey* answered : "Obesity ; High Cholesterol ; Smoking ; Family history ; Diabetes and lack of exercise". Asked as to how people of the modern age addicted to smoking and drinking can avoid these things he replied : "When one learns *Yoga*, one's whole attitude towards life changes. The West's pace of life will be controlled by *Yoga* and this fact is being widely recognised in Western countries".

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Perhaps, it is due to this fact that *Yoga* is becoming popular in the West and America and the *Gurus* migrating from India to European countries are commanding responsive followers.

Danger Signals of Heart Attack

"Pain in the chest ; shortness of breath ; discomfort of the heart, that is, a tight constricting feeling in the area around the heart-bone as if one has been held in vice." Dr. Datey says that pain in the chest which is called angina, is precurser of thrombosis. Thrombosis is the next stage of angina.

In the opinion of Dr. Datey if proper nursing and good attention are available to the patient at home, there is no point at all in admitting him to the I.C.C.U. (Intensive Coronary Care Unit).

He says : "All heart attacks are NOT fatal. About 50 percent are. Of these 25 percent die instantaneously. 20 percent in 2 to 3 hour's time. Sometime, out of seventy percent of the victims, if one survives for 3 hours, one has a good chance to recover. The mortality rate at the I.C.C.U. is 19 to 20 percent ; at home it is 12 percent based on data available from U.S.A. and U.K. These are random figures."

How to Avoid Heart Attack

Dr. Datey advises : "Don't eat too much. Avoid saturated foods. Eat plenty of fresh fruits and vegetables. Don't drink alcohol in excess. Smoking is best avoided altogether. Do exercise regularly. Any exercise. Walking is good but not as good as *Yoga* which is very easy to do, if you make it a habit."

About Diabetes he recommends *Nyoli*, *Uddiyaan*, *Mayuraasan* and *Pashchimottaan Aasans* which can cure it or at least can control it. The Aasan that answers most health problems is *Shavaasan*—शवासन.

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Dr. Datey says that *Shavaasan* helps one to relax. As a result of this relaxation, stress is reduced.

Explaining as to what happens when there is stress, he says : "There is atonce an impulsive reaction. Stress is communicated to the brain by the five senses. *Thalamus* further transmits the impulse through the autonomous nervous system. Impulses are modified through the *Shavaasan*. There is hardly any change in pulse-rate or blood pressure, because the impulses are modified as a result of *Shavaasan*. The *Shavaasan* is the best form of relaxation ; it helps you even to change your nervous system. You won't react to a crisis as an average person would. The *Shavaasan* was once given to 47 patients with hypertension of various etiologies. A significant response was obtained in about 52 percent of the patients."

"As mental tension cannot be avoided, the emphasis should be on changing one's reaction to it. This is possible with *Yoga* and other relaxation techniques." This means that by simply physically lying down in the posture of *Shavaasan* one cannot get over tension. Physical posture is only a contributing factor. In real *Shavaasan* not only the body, but particularly the mind should be relaxed. In mental relaxation tension disappears.

Dr. Datey says : "Y*oga*-therapy is now widely in use in other countries also. It is almost a craze in England and America. The medical profession is taking a very keen interest in it the world over."

9. YOGA KEEPS HEART HEARTY

Hindustan Times, dated Dec. 26, 1982, while reporting the proceedings of a symposium organised by the Indian Section of the '*International Society for Heart Research*' held at All-India Institute of Medical Sciences, has the following :

"*Dr. S. C. Manchanda* and *Prof. R. Tandon* in their lectures of prevention of ischemic heart diseases said the seed of the

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disease starts in early childhood especially around 10-12 years and therefore it is the ideal period to prevent the disease which manifested itself generally after the age of 40."

"The method of preventing any later development of the disease is by altering the life-style of the child. The child should be given a diet which is not rich in saturated fats but is rich in unsaturated fats, has a lot of vegetables, fruits and not excess of either salt or sugar," they said.

"The child must not become overweight and must do regular exercises. There should be early detection and prevention of hypertension which is not uncommon in children."

"Interestingly, they also pointed out that *Transcendental Meditation* and certain *yogic* '*Aasanas*', particularly '*Shavaasan*' or other *Aasanas* for relaxation, may also be helpful in reducing heart attacks."

"In the United States of America the mortality rate had been reduced by 27 per cent in the last ten years by changing the life-style of children," they said.

"*Mr. Aviyogi, S.N. Goyal*, AVM, IAF (Retd.) said the method of *Praanaayaama* in *Hatha Yoga* led to better respiration, better blood quality and better blood flow, having a salutary effect on the heart."

"A compassionate attitude and being of help to others also keeps heart in a good condition," they said, as "one sees that priests, nurses and doctors are generally in good health."

10. WHAT IS SHAVAASAN

Describing as to what *Shavaasan* (Corpse-pose) is *Swami Satyanand Saraswati* writes in his book : '*Yoga and Kriya*' :

This *Aasan* is also known as *Mrit Aasan* (the dead man's pose). Its technique is as follows : "Lie flat on your back in

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the supine position. Place a small pillow or folded blanket behind your head with the corners pulled under the shoulders ; this ensures that your neck and shoulder muscles can relax. Do not use a thick pillow, for this will tend to cause more tension by arching your neck upwards excessively. Rest the arms in line with each side of the body".

"Leave a little space between the arms and the sides of the body. The palms should face upwards and the hands should not be clenched. The legs should be straight and slightly separated. Close your eyes".

"Try to feel the different parts of your body in contact with the floor. This is most important for it starts to develop your awarensss of the different parts of the body. Feel the contact between the floor and the buttocks. Try to detect if the muscles of the buttocks are pulled together ; if they are, release them. Keep your attention on the pressure between the floor and the buttocks for a few seconds until you think that this area of the body is relaxed. Now try to feel the contact between the ground and the right heel for a few seconds. Repeat the same thing with the left heel. Now feel the contact between the floor and the right arm, right hand, left arm, left hand, the middle of the back, each shoulder blade in turn, the back of the head and finally the whole body ; spend a few seconds at each point of contact. Next, try to feel that your whole right leg is very heavy and that it is sinking into the floor. If you can not feel this heaviness, do not worry ; a little practice is necessary in the begining. Feel the right leg become limp. Repeat the same with the left leg. Feel the heaviness of the whole leg and that the leg is becoming limp and sinking into the floor. Do this for a few seconds. In turn, repeat the same thing with the right arm and the left arm".

"Practice this with each part of the body—jaws, eyes, relax, relax. Throughout the practice your worries or problems may keep appearing. Tell these problems that they will receive

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your attention after a few minutes, but now you are practising *Shavaasan*. Do not suppress the thoughts if they occur, merely continue to direct your attention to the systematic relaxation of the different parts of the body in the way we have already explained. Repeat the same process again. If you have managed to carry out these instructions in the way described, with awareness, then you should find that you have attained a wonderful relaxed state, physically and mentally. When you have finished the practice, gently move and clench your hands, move your feet slowly, and open your eyes".

11. FOOD AND HEART— CURD IS ANTI-CHOLESTEROL

As regards food, it should be remembered that we should avoid those foods which contain fat because fat contains cholesterol about which so much has been said in this book. *Ghee*, butter, full milk, cheese, cream, meat, eggs contain a good quantity of cholesterol, but the special feature of curd is that it reduces cholesterol. About curds, the great *Ayurvedic* physician *Charak* (27, 224) says :

"Curds are tasty, brightening, potentizing, lubricating, strengthening, acidifying, heat-giving, anti-flatulent, beneficial and vitalizing."

Butter-milk has met with much praise by *Ayurveda*. It is said :

"One who takes butter-milk never falls ill ; butter-milk produces no illness, butter-milk is like an immortal drink both for men and Devas."

12. REMEDIES FOR THE HEART

(*a*) **Crataegus** (mother tincture) : In Homoeopathy *Crataegus* is said to act on heart-muscle and is a heart tonic. It is used in High arterial tension ; is said to have a solvent

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power upon crustaceous and calcareous deposits in arteries. Its fluid extract or tincture, 10 to 15 drops should be taken in hot water for some time to obtain good results. Take it twice a day, morning and evening.

(b) **Sorbitrate and Isoptin** : Excess of cholesterol results in hardening of arteries which causes blood pressure also, as deposit of cholesterol in the linings of the blood vessels makes them narrow. To remedy this complaint *Isoptin* is recommended as an antagonist to calcium transport across the cell-membrane which causes the narrowness of the arteries. *Isoptin* is a potent inhibitor to transcellular calcium migration and is also effective in ordinary angina as it helps in preventing the formation of the blood clot. The action of *Isoptin*, thus, is preventive. *Sorbitrate* and *Isoptin* are well-known and often utilized Allopathic drugs.

I have some friends who after an heart attack have been regularly taking half a tablet of *Sorbitrate* with a cup of water three times a day, and also one tablet of *Isoptin* three times a day with water. This is their safety measure and also keeps their blood pressure under check. But these drugs should be taken only under medical advice.

(c) **Gum Guggulu or Chandraprabhaa Bati** (गुग्गुल या चन्द्रप्रभा बटी) **for Cholesterol** : According to a group of scientists in Lucknow working at Central Drug Research Institute, the Ayurvedic drug *gum gugulu* which is used for the treatment of gout and rheumatism may help in lowering cholesterol. *Dr. Nityanand*, the Director of the Institute told UNI that high cholesterol levels are known to trigger heart attacks. Experiments were made in 1970 by *Dr.* (*Mrs.*) *Swarna Nityanand* on more than 50 persons suffering from high levels of cholesterol. They were administered 1,200 mg of *gum guggulu* daily and the change was noticeable in two to three weeks. *Gum guggulu* is a kind of resin obtained from Commiphora Mukul, a plant

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said to grow in Gujarat and Rajasthan. The extract effective against cholesterol is called *Guggul lipisid. Chandraprabha Bati* of *Ayurveda* contains *Guggulu.* Opposite you find *Dr. Swarna Nityanand.*

(d) Onion and Garlic : *Dian Dincin Buckman* states in '*Herbal Medicine*' : "*Onion and garlic* help reduce cholesterol after fatty meal. Both garlic and onion juices have now been found very significant in preventing fat-induced increase in serum cholesterol and plasma fibrinogen".

As explained earlier, angina pectoris or pain in the heart which the patients generally describe as pain in the chest is due to the decrease of blood supply to the heart muscle. The other complaint of the heart patient is coronary thrombosis.

Both the complaints are due to increase of cholesterol in the blood which narrows down the blood vessels, thus blocking or restricting the free flow or supply of blood to the heart resulting in heart attack or stroke, "It is a process whereby fats carried on in blood stream gradually pile up on the walls of arteries, like rust in a pipe. The vessels become brittle and roughened, the channel through which blood flows grows narrower." The remedy for angina pectoris, prescribed by allopaths was *nitroglycerine* tablet, but now its place has been taken by *Sorbitrate* as explained in item (b).

As regards coronary thrombosis also the chief culprit is cholesterol. Fatty foods contain cholesterol. Excess of cholesterol in food internally piles up or accumulates on the linings of the arteries and narrows them down preventing a free flow

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of blood in blood vessels. Thrombosis means formation of blood-clots anywhere in blood vessels.

Onion and Garlic reduce cholesteral : Just like *Grataegus* of Homoeopathy, *Sorbitrate* and *Isoptin* of Allopathy, *Gum guggulu* and *Chandraprabhaa Bati* of Ayurveda and *Onion* and *Garlic* of Unani also are effective though the latter are preventives rather than curatives. *Sorbitrate* has an immediate effect both as curative and preventive. Some heart patients always keep these tablets with them. At the time of attack half a tablet of Sorbitrate is kept under the tongue for immediate effect.

(e) **Aspirin prevents Heart Attack :** The following quotation from **Indian Express** dated January 15, 1982 will be read with interest :

Mrs. Estelle Ramey, a professor of physiology and biophysics at George Town University says :

Research suggests that regular doses of aspirin can reduce chances of heart attack and strokes.

A number of studies of animals have shown that aspirin, along with other drugs that share aspirin's ability to slow blood clotting, can be beneficial, Mrs Ramey said.

But researchers have not yet determined exactly what dose is best. In the meantime, she said, men might consider taking one aspirin in a day and women a half aspirin every other day.

"It's an innocuous preparation for most people, provided they take it with plenty of fluid," she told reporters at the annual meeting of the American Association for the Advancement of Science this week. "I don't know what it will do. It can help but it can't hurt".

Both sexes produce hormones which slow down blood clotting and others that speed clotting ; heart attacks and strokes can be triggered by clots that block veins or arteries and cause

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stress on the heart and blood vessels. Thus, substances that prevent clots lower the likelihood of strokes and heart attacks.

Aspirin seems to interrupt the action of the hormones that speed clotting, *Mrs Ramey* said, and if it is given in the proper dosage, it won't block the beneficial hormones that slow clotting.

Women need less aspirin than men, Mrs Ramey said, because female system produces less of the clot-promoting hormones than men's. That is one reason why women live longer than men, Mrs Ramey said. The average American woman now lives to be almost 80, about nine years older than her male counterpart.

Research has shown, she added, that women whose overies are removed before they are 20 are, by the ages of 35 to 50, just as likely as men to develop heart disease.

Apparently, removal of the ovaries, and the accompanying female hormones, takes away the nherent advantage of the female, she said.

She speculated that the difference may have evolved because in primitive societies, it was an advantage for men to have blood which clotted quickly. Primitive man, injured while hunting or fighting, would have survived better with fast-clotting blood.

But while females have an advantage against heart disease there's another side to the coin, *Mrs. Ramey* said. The same hormones that tend to protect women from heart disease also tend to weaken their bones in later life, making them more likely to break their hips.

13. GUGGUL FOR RHEUMATISM AND ARTHRITIS

Ayurveda has been using *Guggul* for rheumatic pains since long. *Chandraprabhaa Bati* which is regarded as a general tonic

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in *Ayurveda* contains *Guggul* as one of its ingredients. Patients are advised to take one or two tablets of *Guggul* or *Chandraprabhaa Bati* every day with milk or water. In this connection the following extract from **Indian Express,** Monday, dated August II, 1980 may be read with interest ;

"Rheumatism or the Rheumatoid arthritis, which causes recurrent painful swelling at joints and makes men stiff and deformed can be cured now completely."

"A team of scientists, led by *Mr. C. K. Atal,* Director, Regional Research Laboratory, and *Dr. V. R. Pachnanda,* Head of the Department of Orthopaedics, have after the last three years' experimentation on rats, rabbits and human beings prepared a medicine, which can virtually give new life to old deformed rheumatic patients. The medicine is being prepared from the gum of a tree called *Salai* (*Boswellia serrata*), and is found in abudance in Madhya Pradesh and Saurashtra, Gujarat and some parts of Rajasthan."

"According to *Dr. G. B. Singh,* and *Dr. O. P. Gupta* scientists working in the Pharmacology Section of the RRL, over 2,000 rabbits and rats, were injected the medicine, after various parts of their bodies were artificially made rheumatic, swollen and deformative, and showed 'good to excellent' results."

"They told newsmen that the greatest achievement in the experimentation was that animals have demonstrated both anti-rheumatic and blood-fat lowering effects."

"The scientists also said that it was observed that even in very high doses, over a period of one-eighth to one-fourth of the life-span of animals, *Salai Guggul* treatment caused no toxic or any undesirable side effects."

Dr. V. K. Pachnanda of the Jammu Medical College, who tested the medicine, in the form of capsules, on 30 patients—both men and women—gave newsmen an amazing account of the effects of the medicine."

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"*Mrs. Patnaik*, an army officer's wife, who had been deformed and could not walk for several years, came to the hospital walking unhelped after using the medicine, he said."

"*Miss Sofia*, 23, who had lost even her grip-strength during the last six years, he disclosed to newsmen, has regained her grip-power. Several other patients who, he said, had been too fat but were patients of arthritis have been de-fatted."

"According to *D. R. Pachnanda*, the 30 resistant cases of rheumatoid arthritis, who had earlier undergone treatment at various centres, with all the available anti-rheumatic drugs, and later agreed to subject themselves to the study of the Regional Researeh Laboratory, had no multiple joint pains after two weeks' of initiation of the treatment."

"One patient, who had complained of hyper-acidity was relieved of her symptoms. While all anti-rheumatic drugs like aspirin, indomethacin cause hyper-acidity and gastritis as a side effect, such a complaint is absent among patients using the *Salai extract* medicine."

"Though those scientists say, it is too early to speculate about the universality of the new medicine, they are sure about the new drug having a great future in treatment of rheumatoid arthritis."

"While the RRL is pursuing further to isolate the active anti-rheumatic constituent of *Salai Guggul*, a Bombay-based drug manufacturing firm has already started a liaison with the RRL for manufacturing the medicine, which shall be usefull to several million deformed arthritis-hit patients in the country, the RRL director said."

14. SNAKE POISON FOR RHEUMATISM AND ARTHRITIS

This is from a Delhi Daily paper dated November 22, as reported by PTI : "Snake venom has been successfully used to

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cure rheumatic diseases, according to *Dr. Majumdar*, Director of Delhi's Centre for Rheumatic Diseases."

"As an experimental measure I have given it to a few persons and I found encouraging results," he told the 8th National Seminar on Rheumatic Diseases which *Dr. Karan Singh*, the Union Health Minister, inaugurated in Delhi."

"*Dr. Majumdar* said, he found that snake poison gave relief even to patients of Osteo-arthritis which, according to him, has no effective remedy in modern medicine."

Dr. Majumdar, however, cautioned that the results obtained from this remedy should be considered as an achievement, but require more research."

In Homoeopathy *Lachesis* which is a snake poison, is given in Sciatica, pain in tibia. It is available in 8th potency, not lower.

15. DIABETES

We have the following note in the **Hindustan Times** of 30-10-1982 about Diabetes :

"If you have crossed 40, better watch your weight. Try to slim if you are bulky. This is one sure way keeping Diabetes away."

"Also one never knows if he or she is prone to Diabetes. It can be hereditary too. The international finding is that nearly 20 percent inherit it, though, the number of those who actually are diabetic is far less—2 percent of the 20 percent."

This gentle warning to reduce comes from no less a person than *Prof. Rolf Luft* of Sweden, a specialist in Diabetes, who came to India to preside over the Ninth International Diabetes Conference in 1976.

Prof. Luft, who is a recognised authority on the origin of Diabetes adds that the figure of 20 percent being born with

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an element of the disease has for years been constant. The 'additional' factors which people in this group acquire through the years aggravate sugar in blood and cause the outflow of *insulin* which is a definite sign of Diabetes.

Among the additional 'environmental' factors *Prof. Luft* mentions, is one of a higher intake of food containing a high degree of fat or carbohydrates which are easily digestible. In precise terms, his advice to people who already suffer from the disease is to resist the tempataion of eating sweets, though he does not agree that total abstinence is that helpful. People normally tend to believe it helps.

Emotional strain is another factor which contributes to the aggravation of the disease. This theory is propounded by *Dr. J.S. Bajaj* of the All India Institute of Medical Sciences. *Dr. Bajaj* maintains that the various strains on the mind of a person have an effect on the normal functioning of the 'sophisticated' cells in the brain. This strain disturbs the normal chain of directions relayed by the mind to various parts of the human body, including the heart. His study is that this disturbance in the circuit has been established in quite a few people in public life.

Prof. Luft has some advice for diabetic patients. Don't get accustomed to lazy and cushioned life ; keep on doing some exercise. His observation is that the affluent run a greater risk. To these *Dr. Bajaj* recommends *Yoga*—the physical exercise—to keep oneself alert. Also diet should neither be poor nor too rich in fat. Vegetables (including potatoes), are OK, but not butter.

Times of India, dated 12-9-1981 records the statement of the Minister of Health made in the Parliament saying that the Agricultural University of Ludhiana has produced an *Aasava* (आसव) from *Karelaa* (करेला) which was given to 700 patients of Diebetes with great benefit. It benefitted them so much that they gave up allopathic drug. This *Aasava* has been

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named *Soma Ras* (सोम रस). The English word for *Karelaa* is Memoradia Charata. In *Ayurveda* Karelaa is prescribed for reducing blood-sugar.

If *Karelaa Aasava* is not available, one can take juice of 3-4 *Karelaas* once or twice a day by crushing them to yield juice.

Raw Soyabeans Cure for Diabetes : Regarding Diabetes we have the following report in the **Indian Express** dated January 31, 1983 : "Raw soyabeans have proved to be effective in treating diabetes and other diseases, according to a study conducted in Seoul Vonhap".

"This study by Prof. Wonjac Hee, of Sookmyung Women's University was based on experiments on rats".

"According to Prof. Won, elements contained in fresh soyabeans step up the functions of the pancreas and increase the secretion of insulin which, in return, reduces the amount of sugar in the blood and helps in curing diabetes".

16. CATARACT

The December 1976 issue of a bulletin entitled **'Executive Health'** contains an article on Cataract, the substance of which is as follows :

Generally it is believed that Cataract is a normal result of old age due to opaqueness of the eye-lens. This lens is a non-living tissue and nourishment cannot affect it. It is just like the lens of the camera which brings into focus the rays of the sun. No nourishment can improve it. But to regard this lens as a non-living tissue is absurd. It is just as living as any other tissue of the body.

A century ago some scientists did believe that the opaqueness of the eye-lens which is called Cataract was due to some sort of mal-assimilation. Recently, scientists are coming round to the same view and the idea is gaining ground that Cataract is not

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an inevitable result of old age. Scientists are coming round to the view that Cataract can be prevented.

Dr. Curtis reckons, amongst the causes of Cataract, exposure to great heat, as Cataract seems common to foremen, glassblowers, and blacksmiths, strong liquors, sour wines, rice diet and sudden application of cold to extremities. *Dr. J.G. Burnett*, a top Homeopath says that *Salt*, *Sugar* and *Hard Water* are the three important causes of Cataract.

What is Cataract ? As we look at the eye, the transparent front—anterior—part of the eye-ball is called *Cornea*. Behind this cornea there is a round aperture—a circular opening in the centre of the eye through which the light passes to reach the *Retina*. Retina is the layer at the back of the eye-ball on which the image of the outside object falls in its sharpest focus and one percieves. Between the Cornea and the Retina there is lens through which the rays of the object seen outside pass and the image is reflected on Retina. Retina has nerves which carry the impression to brain centre, and we see. The main function of the lens is to carry the rays of the image coming from outside at the right point of the Retina so that we can see the image as it is. So long as this lens is transparent the image passes through it very clearly and our vision is clear. If, however, the lens becomes opaque, obscure, then, the image either does not pass on to Retina or passes in a very dim condition. This opaqueness of the eye-lens is called Cataract. There is no pain, no redness of the eyes, only vision is affected. One sees things dim, sometimes the person complains of double vision, more light is required for reading, one cannot drive a car in the night as the dazzling light of the oncoming car disturbs the eyes. In such a case surgery is resorted to when the lens is removed and a spectacle with a lens is provided. Though this is very helpful and person after Cataract-operation can see, read and write by spectacles, still efforts are being made to delay the Cataract-operation and prolong the natural eyesight with the help of medicines.

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Dr. Roger J. Williams Ph.D., D. Sc., writes in the Bulletin '*Executive Health*' that the question of cataract depends upon the fact as to how long we can keep active the constituent elements of the body ; the cells of the body remain active so far as they receive the nutrition, but they die in absence of nutrient elements. The living cells joined together make the tissues. Just as the cells and tissues of the body remain active and alive if they continuously receive the nutrient elements, similar is the case with the eye-lens which is like other cells and tissues. If nutrient elements are supplied to it, Cataract can be checked. It is true that this lens has no blood-vessels and is not connected with nerves and arteries, but even then it is surrounded with clear, colourless, somewhat salty, aqueous, jelly-like humor. Aqueous humor is the fluid in the anterior chamber of the eye. This aquous humor contains nutrients and oxygen which can impart nutrition and protien to check opaqueness of the lens to ward off Cataract.

With this object in view experiments have been made on rats. They were divided into three groups. One group was kept on food which did not have nutrient elements ; second group was kept on food which contained very little nutrient elements ; the third group was kept on food which had all the nutrient elements. All the rats of the first group suffered from Cataract ; in the second group some had it, some not ; in the third group no rat suffered from Cataract The conclusion was that if sufficient nutrients are provided one can steer clear of Cataract.

What are these nutrient elements ? *Dr. Roger Williams* has evolved a formula of these elements which we are giving here. A company in America has manufactured tablets according to this formula. Its address is : Bronson's Pharmaceutical's, 4526 Rinetti Lane, La Canada, California 91011 (213790-2046). The name of these tablets is : '*Vitamin and Mineral Insurance Formula*.' One has to take 3 tablets in a day. One bottle contains 300 tablets. A bottle containing 100 tablets costs 2.95 and 250 tablets costs 6.64 Dollars. Roger's formula for cataract is given on the next page.

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Roger's Formula For Cataract

Vitamins	
Vitamin A	7,500 units
Vitamin D	400 units
Vitamin E	40 units
Vitamin K (Menedione)	2 milligrams
Vitamin C (ascorbic acid)	250 milligrams
Thiamine	2 milligrams
Riboflavin	2 milligrams
Vitamin B_6	3 milligrams
Vitamin B_{12}	9 micrograms
Niacinamide	20 milligrams
Pantothenic Acid	15 milligrams
Biotin	0.3 milligrams
Folic Acid	0.4 milligram
Choline	250 milligrams
Inositol	250 milligrams
P-aminobenzoic Acid	30 milligrams
Rutin	200 milligrams
Minerals	
Calcium	250 milligrams
Phosphate	750 milligrams

(equivalent to 250 milligrams phosphorus)

Magnesium	200 milligrams
Iron	15 milligrams
Zinc	15 milligrams
Copper	2 milligrams
Iodine	0.15 milligrams
Manganese	5 milligrams
Molybdenum	0.1 milligram
Chromium	1.0 milligram
Selenium	0.02 milligram
Cobalt	0.1 milligram

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Catalin

Latest preparation by Japan to dissolve cataract is known as Catalin. It is manufactured in India by Biddle Sawyer Private Ltd., 25 Dalal Street, Bombay 23 under License from Takeda Chemical Industries Ltd, Osaka, Japan, and is available with Chemists. Its price is Rs. 31. The packet has a small bottle containing a solvent solution along with one tablet. This tablet untouched by hand, has to be put in the solution and allowed to dissolve. One or two drops 4-6 times daily are to be dropped in eyes, at 4-5 hour's interval. Found not very useful.

Gulbandi Almonds

Besides the Formula given before, men who have had experience say that *Gulbandi Almonds* (गलबन्दी बादाम), 20 or 25 pieces, finely ground, taken in milk or water every day in the morning supply enough nourishment to the eyes to check the onset of Cataract. I am taking 25 almonds every day in this manner for the last 3 years and I find that my right eye is perfectly alright though the left seems to be developing Cataract. Carrot contains vitamin 'A' which is useful for the eyes. Carrot strengthens the heart also.

Cineraria Maritima Succu ss

Homoeopaths recommend *Cineraria Maritima Succuss*, 2 drops in the eyes thrice a day. Allopaths also recommend it. One should use it before going to bed in the night and after getting up in the morning, besides once in the afternoon. It is better if one takes 5 tablets of *Calcaria Fluour* 200x along with *Cineraria*. Vitamin A and E tablets available in the market under the name of *Aquasol* may be taken. It acts on the Retina.

Dr. Burnett suggests in his book '*Curability of Cataract with Medicine*' (p. 69) "that if there is nothing more than smokiness of the lens it may clear entirely. The medicines I have found of most service are *Merc.*, *Calc.*, and *Phos*, all in the higher dilution."

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Washing Eyes with Cold Water

Shri Gaurishankar Agarwal M.A., L.L.B. writes in his Hindi Book '*Swasthya Ke Kuchh Niyam*' (स्वास्थ्य के कुछ नियम) :

"This happened in 1926. I was a student in Allahabad University. My eye-sight was weak, it used to water and while reading I suffered from smokiness of vision and diplopia. I got my eyes tested by an optician and he suggested to use glasses. At this very time a friend of mine advised me to take up water through the nose and wash eyes with cold water. He said that, perhaps, this may help and not to go in for spectacles. He explained to me the importance of water so far as health was concerned. I also felt a sign of hope in what he said. I started taking water through the nose along with washing my eyes with cold water every day in the morning. I felt benefitted within 2-3 weeks and within four months my complaint disappeared. Since then for 23 years I never felt the necessity of using spectacles."

"It is better to drink a glass of water after one gets up early in the morning after washing the mouth, and if possible drink some water through the nose. This is called *Ushapaan* (उष: पान) which removes constipation and brightens the eyes."

Drinking water or passing it through the nose and expelling it through the mouth is called Neti (नेति) in *Yogic* terminology. *Yogis* use a twisted and waxed thread for passing it through the nasal passage and taking it out through the mouth. It clears the nasal passage and helps in maintaining the health of the eyes.

17. SLEEPLESSNESS

Sleeplessness is an illness of civilised man. To primitive men and animals this disorder is unknown. Civilized men suffer from this disorder for two reasons : Either they do not

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tire themselves by exercising their body or they are involved in financial or emotional stresses and worries which overcome them and make them restless depriving them of sleep. The primitive men and animals are always on the move and as a result of fatigue they go to sleep which is a self-repairing device of nature. There is no machine in the world which automatically repairs itself except the human machine, mostly through sleep. Hence, to overcome sleeplessness one should tire oneself through exercise and if the ailment is due to worries and tensions, one should bid a goodbye to them at least for the night through the practice *of Yoga.* It is said that one hour's sleep before midnight is worth three hours after.

Dr. R.H. Dastur in his excellent book '*Rock Around the Clock*' has made very wise observations which are worth quoting. He says :

Sufficient Sleep

There are some things the human body cannot function without. They are sleep, water, food and air. Deprivation of total sleep, even for three or four days, brings the individual to a near breakdown ; the human engine would come to a grinding halt in a few minutes without Oxygen, in a few days without water, and in a few weeks without food. Insomnia or lack of sleep is a disorder common in civilised man. It is unknown in primitive men or in animals."

"For some animals, like the tiger or the lion, sleep is normal throughout the day and wakefulness is only experienced when the animal is hungry and has to hunt for food or is exposed to external threat. The animal goes to sleep after hunting. This has led some biologists to speculate that sleep is sought out of sheer necessity. Many individuals continue working mentally while trying to sleep. This has resulted in insomnia—a worldwide phenomenon, supporting a multi-million-dollar sleeping-tablet industry."

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How much sleep is necessary

"Individuals vary in their sleeping habits. Some people sleep as soon as they place their heads on the pillow, but most take some time before they fall asleep. Many lie awake for hours before they can get sleep. The amount of sleep necessary to recuperate an individual, varies from person to person. Some individuals require only five hours of sleep, others six, but quite a few feel groggy and tired unless they sleep for eight or nine hours. Yet, it is not the quantity of sleep that counts—it is the quality that is more important. Deep, peaceful slumber spells good health."

Why is sl eep necessary

"Any machine that is in constant use experiences wear and tear of the various components. The machine cannot repair or replace its worn-out parts, and these have to be replaced. The human engine, however, has the unique ability of conducting its own repairs—unlike the car which has to go to a garage. Sleep is necessary to conduct the repair-work in our body. During sleep, the necessarry repairs and the recharging of the exhausted vitality-batteries can be undertaken."

"A basic knowledge of the physiology of sleep will help an individual to understand the problem of insomnia and plan its management. Therefore, the fundamental principles that one should observe to banish insomnia and get good sleep are listed below."

"(a) **Exercise** : When one is physically tired, one goes to sleep immediately. Take a walk after dinner, or play a game in the evening to produce a healthy physical tiredness and banish all tensions. Exercise, as previously stated, is the best antidote to emotional tension."

"(b) **Try and Relax the Body Muscles** : Tense and taut muscles produce insomnia, while relaxed muscles produce sleep."

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"(c) **Cut off the Sensory Stimuli** : The bedroom should be dark and not noisy. The bed should be confortable,"

"(d) **State of the Mind** : If one is tense or taut, or mentlly disturbed, the impulses from the higher centres keep the reticular activity system active, and do not permit sleep. The mind should not be active and busy sorting out office problems, as this will lead to insomnia. Learn to forget the office and unwind as soon as you reach home."

(e) "**Consciousness** : Sleep is a normal, natural process of the human body. If consciousness is directed to wondering whether sleep will come, the fugitive sleep will run away and the sleeper will remain awake. You cannot will your body to sleep."

"(f) **Sleeping tablets** : If, after a reasonable time, sleep still eludes you, do not be obstinate and wait till early morning. Take a sleeping tablet and have a good night's rest. Sleeping tablets, though habit-forming, do much less physiological damage to the human machine than lying awake for hours and getting up tired in the morning."

From experience of several friends I have come to know that *Valium* 5 is better than most of the sleeping tablets, but one should consult one's physician if one has to take such a tablet. Beside *Valium*, some use *Calmpose* and some *Librium*. Have *onions* for supper if you sleep badly. Homoeopathy has some medicines which have a bearing on sleep.

18. HOMOEOPATHIC TREATMENT OF INSOMNIA

In my experience *Sulphur* 30 or 200, 4 globules taken early in the morning helps a good deal in combating sleeplessness. 30 can be repeated 3-4 times during the day. Generally, Homoeopaths give *Kali Phos* 6× to tone up the nervous system, the weakness of which is the cause of sleeplessness in old age. But, *Dr. Kent* says that the high and highest potency of *Kali Phos* serves the best. It should be used in a single dose. This is for nerves. *Passiflora*, 40 to-60 drops, repeated thrice induces sleep to infants and the aged.

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For further information regarding Homoeopathic Treatment of Sleeplessness, the reader is advised to refer to the author's book : *Specifics of Homeopathic and Biochemic Treatment.*

19. URINE THERAPY

The following extract from **Times of India** dated May 7, 1979 will be found interesting :

"The Government is considering making available in hospitals *Urokinase*, a life-saving drug, manufactured from urine and used effectively in treatment of blood clots in brain, artery and other circulatory diseases. The Health Ministry has, however, not yet taken a decision in this regard."

"Urokinase, which is an enzyme, is at present being manufactured in Japan and its cost is prohibitive."

"Urokinase injections are also manufactured but they are not commercially available in India. However, Government permits individuals, registered medical practitioners and medical institutions to import them."

Urokinase Dissolves Blood Clot

The Wall Street Journal, London, writes in its issue dated 11th June 1982 : "Genentech Inc., a genetic-engineering concern said, it and a German pharmaceutical company used genetic-engineering techniques to produce a blood-clot-dissolving enzyme from bacteria."

"The German company, Gruenenthal G.m.b.H., has an agreement with Genentech allowing it to develop manufacture and market the enzyme, *urokinase*, in Europe ; Genentech holds production or manufacturing rights for the rest of the world."

"Genentech researchers inserted into bacteria the human gene for urokinase, an enzyme normally produced by the kidney and excreted in the urine. The bacteria then produced human

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urokinase. The enzyme, currently produced by test-tube grown kidney cells or extracted from urine, is used to dissolve blood clots that block the lungs or cause heart attacks."

"Genentech announced the genetically engineered production of this enzyme at a genetic sysposium in Japan."

The fact that the urine can be used as a preventive and curative agent for diseases was much talked about in India during the Premiership of *Shri Morarji Bhai*. Many people started taking it following his example. Let me mention here that I took the opportunity of drawing the attention of *Morarji Bhai* to the basic similarity of Homoeopathic treatment with urine therapy. The Homoeopathic principle of cure is : *Like cures like*. Unine therapy is also based on the same principle. In urine we get the essence of all the diseases one is suffering from. If it cures, then it must be curing on the Homoeopathic principle. I wrote all this to *Morarji Bhai* on his birth-day, the 29th of February 1980 to which he replied in Hindi as under :

Morarji Bhai **Oceana**
12.3.1980 N. S. Road, Bombay

Shri Satyavrataji,

I received your letter dated 29th only yesterday. I am thankful to you for your having expressed felicitations and good wishes on my birth-day.

I could not read your book '*From Old Age to Youth*' which you had given me.

What benefit you could expect by urine consumption when you are already enjoying good health. It has not harmed you shows that taking it every day causes no ill-effect. It safeguards a person from infection. I am taking it regularly for the last ten years with the result that it has cured me of the inveterate constipation of ten years. I take it every day, and after evacuation and before taking bath I massage with

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it the part where prostate is situated. I wash my eyes with it, morning and evening. I put some drops of it in the ears for it prevents deafness. Ten years before I had symptoms of oncoming cataract. Since I have started washing my eyes with it cataract has not progressed and consequently I have no visual complaint. Even earache is cured by it. Early in the morning after leaving the bed, I take 6 to 8 ounces of urine. If I feel restlessness then second time also I take it in the afternoon or at night, but this seldom happens. I appreciate your remarks about Homoeopathy, but there also the medicine has to be purchased. In urine-therapy there is no expense.

I get up early in the morning at 4 O'clock. I need six hours' sleep. I get up once during the night for urination, and then immediately go to sleep. I sleep during 9.15 p. m. to 11.00 p. m. I feel no need of sleeping during the day, but if I have time I do go to sleep during the day also. I have no complaint of the prostate. A friend had it, but he was advised massage with his urine and he got well. I have already written about cataract. Hoping that you are quite well :

Yours
Morarji Desai

In this letter *Morarji Bhai* mentioned about massaging the prostate gland. As this gland is inside the body situated circling round the exit-mouth of the bladder from where urethra starts, I asked *Shri Morarji* as to how prostate could be massaged as it was not outside the body. To this he replied in his Hindi postcard dated 25.10.1981 :

Shri Satyavrataji,

I received your letter dated 16th yesterday only. The massage of prostate is done from outside only. It is done with palms of hands on a portion situated between the anus and the testicles, and also on the left side from the anus to the testicles, upwards. You have stated that the span of your sleep has decreased. You should not bother about it. In old

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age sleep does decrease. I also get up twice in the night but one should not worry about it. Worrying harms. One should repeat *Raam-naam* when sleep does not come. In this age walking is quite sufficient. If one can walk for one hour, so much the better. It is not necessary to do hard exercise. After walking I do *Aasans* for one hour and perform *Yoga-Mudraa* for 4-5 minutes.

Yours
Morarji Desai

What is Yoga Mudraa Aasan

Swami Satyanand of Bihar School of Yoga in his book *Yoga and Kriyaa* describes the technique of *Yoga Mudraa* (योग मुद्रा) as follows :

"Sit in *Padmaasan*. Close the eyes. Hold the hands behind the back with fingers of both hands interlocked or with left hand holding the right wrist or any other suitable hand-holding. This is the starting position. Relax the whole body. Breathe slowly and deeply. Then inhale deeply. Exhale while slowly bending the trunk forwards. Try to touch your forehead on the ground in front of your body ; if this is impossible, merely bend forward as far as you comfortably can. This is final pose. Stay in the final position as long as you can. Then slowly raise the body to the starting position, while breathing in. This is the basic technique."

"*Yoga Mudraa* may be a little difficult at first, but the benefits it will give are well worth the effort. It is particularly useful for massaging the abdominal organs and helping to remove associated ailments from constipation to diabetes".

In *Yoga Mudra* pressure falls on the abdominal muscles, on joints of kness, on joints of the back, on spine, on neck, on the face, practically on the whole physical system as will be clear from the picture given.

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Prof. Satyavrata Siddhantalankar in *Yoga Mudraa Aasan*

20. CURE OF CANCER—BHILAAVAA

There was an article in the **Illustrated Weekly of India**, dated October 16, 1977 by Shri *N.V. Damle* on the cure of Cancer by Bhilaava (भिलावा)—the Indian Black-nut - Semecarpus anacardium—which is used by washermen for marking on clothes and the seeds of which are used as a flavouring agents and eaten as a tonic. Some of the extracts of the article are given below :

"In 1961 *Dr. B.G. Vad*, a Bombay physician and a former Dean of the Faculty of Medicine, Bombay University, was discussing with *Dr. S.S. Dharmatti*, of the Tata Institute of

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Fundamental Research, the latter's work in the detection of radio-activity in the atmosphere and in plants and water-Remembering that he had the seeds of the Indian Blacknut called *Bhilaavaa* (भिलावा) in his pocket and that they were used extensively in *Ayurvedic* medicines, *Dr. Vad* asked his friend to have them tested for radio-activity."

"Within a week, *Dr. Darmatti* reported that the seed contained radio-active potassium K.O. This almost additional discovery was the begining of a series of experiments that established that the *Bhilaava* has cancer-healing properties".

"Following *Dr. Vad's* initial recognition of the possible use of this nut in the treatment of Cancer, *Dr. K.J. Randive*, Director, Indian Cancer Research Centre, Bombay, was requested to conduct experiments on animals, using a concentrated oily extract of the nut. Her experiments with rats in 1971 as well as further tests in 1971 by *Dr. Randive* and her colleagues confirmed the anti-cancer properties of the extract. It was observed that, among the animals in which Tumor had been produced, those that had not been administered the extract died within a couple of weeks. The ones that were administered the extract survived for about 18 months and, on dissecting them, no trace of cancer was found in them."

"In his first paper on the subject, published in 1967-68 *Dr. Vad* described his medicinal preparation as *Anacardium Forte Bhilaava*, nuts and seeds in the proportion 1 : 200. He also recently declared that chemical studies conducted during the last 15 years have shown that the preparation possesses anti-cancer properties. It gives clinical relief to cancer patients, improves their general condition and increases their life-span without causing any harmful or toxic effects when taken over a long period of time."

"The medicine was administered to such patients orally—about 20 to 40 grams daily in several doses. By 1968 *Dr. Vad* has treated 150 cases with *Anacardium Forte*. The results were

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encouraging. The cases treated included cancer of the tongue, the lip, the cheek, the tonsils, the hypopharynx and several others."

In all cases, says *Dr. Vad*, there was relief from pain, diminution or disappearance of troublesome symptoms, a gain in strength and an increase in life expectancy. In some, there was a gain in weight, improvement in appetite and sleep and a feeling of general well-being. Some were able to resume normal activities."

"Recently, a pharmaceutical firm in Bombay, under the guidance of *Dr. Vad* has been preparing a jam-like substance called *Anacardium Forte* which is marketed as an *Ayurvedic medicine*. Four to six teaspoonfuls per day of this medicine is equivalent to 20 to 40 grams of powder. The oil extract of *Bhilaava* can also be used as an injection."

"As regards side-effects : A few cases of skin allergy have been reported, but these have been easily controlled by *antihistamine*. There have been no side effects like nausea, vomiting, loss of hair or R.B.C. disorders such as have been observed in radiation therapy."

"*Dr. Ved* says that *Anacardium Forte* has been used for more than 6 years at the St. George's Hospital, Bombay, and for more than 3 years at the STM Cancer Institute, Nagpur. Experiments with the drug have been undertaken in some laboratories in Germany and the USA, including the Cancer Institute at Bethesda. The Year Book of Cancer 1976 (USA) has reported the successful use of the drug in cases of sub-leukaemic conditions."

"In India, a Committee under the chairmanship of *Dr. Randive* has been set up to evaluate the drug."

Chewing Tobacco and Paan leads to Cancer

Times of India, dated 27th Oct. 1982, has this from its correspondent, *Usha Rai* : "Medically it is called sub-mucous

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fibrosis. But in common parlance it is a kind lockjaw that arises from chewing too much tobacco, *paan* (पान), *paan masala* (पान मसाला) and betel-nut. In a large number of cases sub-mucous fibrosis is the precursor to the deadly cancer."

"But regardless of its many dangers, tobacco-chewing and *paan-eating* is on the increase. Lots of little children too are eating *paan*, their parents blissfully unaware of what they are exposing them to."

"Sub-mucous fibrosis is prevalent in all *paan* and tabacco-chewing areas of U.P., Bihar, M.P., Kerala and Orissa. It has, however, been found to be a disease that affects the Indian population more than ony other, even in East Africa and Malaysia."

"Tobacco-chewing and *paan* and betel-nut addiction are undoubtedly responsible for the high incidence of neck and face cancer."

"Despite the seriousness of the problem there has been no effort by the government to check the increasing addiction to *paan-chewing*."

"At the AIIMS, the dental department has been assisting a patient for the last 15 years. She developed sub-mucous fibrosis 20 years ago. Her teeth are clenched. She cannot eat normal food and has been living on liquids. To facilitate feeding one of her teeth was extracted."

"In many cases along with the constriction in the jaws, palate and mouth, white patches begin to develop on to lips and inside the mouth. The skin inside the mouth becomes tough and leathery. Very often small ulcers develop and these can later become cancerous."

"In mucous fibrosis, the tissues of the mouth are ruptured and the mucosa or lining of the mouth begins to shrink. The The mouth loses its elasticity and the opening gets restricted."

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"Unfortunately, there is no cure in allopathy for mucous fibrosis. Injections of vitamin A, C and steroids are known to give temporary relief. Surgery and grafting, too, are being done but if the lockjaw is complete, there is nothing the doctors can do."

"The only solution. *Dr. Sindhu* says, is that the patient should give up eating *paan*, tobacco, nuts and spicy food. He should not eat or drink anything that is excessively hot. The softest brush should be used for cleaning the teeth for the sensitive skin of the mouth can be ruptured causing ulcers that may lead to cancer".

"Though there has not been enough medical investigation on the subject, *Dr. S.K. Kacker*, ENT specialist of the AIIMS, says that arecoline, lime and tannic acid found in *paan* and betel-nuts could cause local irritation and damage to the mucosa. Keeping tobacco in the cheek or between the teeth and lips for long period can also lead to sub-mucous fibrosis."

21. RAW GARLIC IS ANTI-BACTERIAL

Times of India, dated 30.10.1976 has the following about the anti-bacterial property of raw garlic (कच्चा लहसुन) :

"Research conducted by *Pantnagar* University has proved that raw garlic possesses certain anti-bacterial property and can be effective against a number of pathogenic micro-organisms, including those which are resistant to commonly used anti-biotics."

"The findings reveal that the anti-bacterial property of garlic is destroyed on boiling."

Garlic is very useful for the heart. One or two raw pieces taken after meals control the gas in the stomach.

Garlic is also useful in Diabetes. In a news item published in **Indian Express** dated 5.11.1982, there is a mention of the All-India-Ayurvedic Seminar in which it was

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noted by *Ayurvedic* practitioners that *Karela* (करेला) juice taken twice daily can effectively check diabetic attack. It was also suggested raw garlic taken before meals was an anti-dote to diabetes.

22. GREY HAIR

Times of India. April15, 1982 has the following words of cheer for greying girls from *Dr. J.S. Pasricha,* Associate Professor in the Dermatology Department of All-India Institute of Medical Sciences. Dr. Pasricha's remedy for premature grey hair is a daily doze of 200 milligrams of calcium pentothenate of a Vitamin which is a constituent of Vitamin B-complex.

23. PROPERTIES OF HONEY

Mr. S.A.N. Peerzade writes in **Times of India**, dated 7.10.79 (Sunday Magazine Edition) : "In terms of energy, one kg. of honey produces over 3500 calories which is equivalent to about 65 eggs, 5 litres of milk, 10 kg. of green peas, 12 kgs. of apples or 20 kgs. of carrots. Thus honey can be used as a nutritional standard. Honey taken with milk accounts for vigour and vitality. Honey mixed with white onions serves as a good tonic for building up health. Honey consumed with hot water possesses the quality to cure cold and and throat infections. Honey taken with cold water is effective in reducing fat. Honey mixed with lemon is effective in ensuring regular blood circulation. Honey has the capacity to clean the bowels and can also control dysentery."

Corrigendum

Page	*Line*	*Incorrect*	*Correct*
40	6	grains	grain
49	35	that	so that
51	33	clossd	closed
54	18	exercise	exercises
55	2	allowed	swallowed
60	23	eomplain	complain
62	12	there	their

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WISE SAYINGS ABOUT BOOKS

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1. Comerado, this is no book,
   Who touches this, touches a man:

   Walt Whitman

2. Books are embalmed minds:

   C.N. Bovee

3. No furniture is so charming as books:

   Smith Sydney

4. Go little book, from this my solitude;
   I cast thee on waters—go thy ways;
   And if, as I believe, thy vain be good;
   The world will find thee, after many days:

   Robert Southey

5. There is a great deal of difference between the eager man who wants to read a book, and the tired man who wants a book to read

   Chesterton

6. Some men borrow books; some men steal books; and others beg presentation copies from the author:

   Rooke James Jeffery

7. My days among the Dead are passed,
   Around me I behold,
   Where'er these casual eyes are cast
   The mighty minds of old:
   My never failing friends are they,
   with whom I converse day by day:

   Robert Southey

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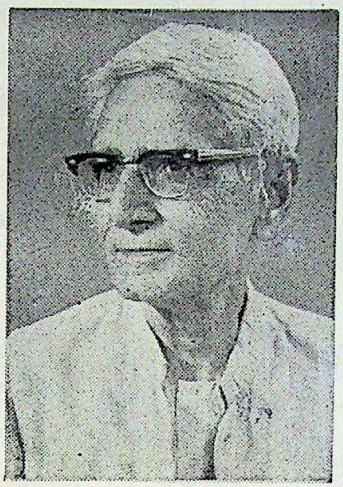
Prof. Satyavrata Siddhantalankar (b. 5 March 1898), who was nominated in 1964 to the Parliament (Rajya Sabha) by President Dr. Radhakrishnan holds the doctorate degree of Gurukula University. He had been its Vice-Chancellor for ten years. Since 1980 he is its Visitor. He was awarded Mangalaprasad Prize of *Hindi Sahitya Sammelan* in 1960 for his outstanding book on Sociology. In 1962 he was honoured by the Panjab Government as a litterateur by holding public Darbar at Chandigarh where Rs. 1,200/- along with a Dushala were presented to him by the Chief Minister. In 1976 he was awarded Rs. 1,200/- by Gangaprasad Upadhyaya Puraskar Samittee, Allahabad, for his book '*Scientific Basis of Vedic Thought*' (in Hindi). In 1977 Uttar Pradesh Government also awarded him Rs. 2,500/- on the same book. In 1979, Delhi Administration honoured him for his literary attainments by presenting him Rs. 2,001/- with a Dushala. In 1981 Bhartiya Vidya Bhawan honoured him by giving him Rajaji Award of Rs. 10,000/- on his Hindi book '*Scientific Basis of Vedic Thought*' declaring it as the best book written during the last several years. The same year President of India honoured him as an outstanding Vedic Scholar by awarding him Rs. 5,000/- per annum till life. In 1978 he presided over the International Aryan Conference at Nairobi. In 1982 he was invited by Dutch Indians to give lectures on Indian Culture in Holland, Belgium, Germany and England.



He is a freedom-fighter and went to jail in 1930 during Mahatma Gandhi's movement. His wife, Shrimati Chandravati Lakhanpal (deceased) also an M.P., went to jail as Dictator of U.P. Congress Working Committee in 1932. She also was awarded Mangalaprasad prize for her book on Educational Psychology.

He is a voluminous writer of great eminence. His books on the Vedas, Upanishads, Gita and Vedic Culture have made a mark in literary circles and these works number more than 35. His total writings cover more than 12,000 printed pages. He is now running 86th year of his life and is still benefitting the literary world by his writings. His interests are varied. His books on Homoeopathy have won him laurels.

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